

KOMATSU®

Product data

Forestry Quality™

Premium Zinc-Free Industrial Hydraulic Fluid for very wide temperature range.

- Long life and improved efficiency
- Versatile Applications

HM 46 hydraulic fluid are high performance lubricants that use exclusive ashless technology, coupled with highly shear stable viscosity modifiers. They give excellent viscosity control and protection under severe mechanical, thermal and chemical stresses across a wide range of temperatures. They provide outstanding protection and performance in most mobile equipment and other applications subjected to a wide range of ambient or operating temperatures.

HM 46

Performance, Features & Benefits

Long fluid life - maintenance saving

HM 46 fluid offer an improved capability to extend fluid maintenance intervals and hence reduce equipment downtime through:

- An extended ASTM D943 TOST lifetime, with an oxidative stability that is designed for a minimum 5000 hours TOST life;
- Excellent resistance to breakdown in the presence of water and heat;
- Class leading shear stability to maintain viscosity control. These features provide extended maintenance capability without compromising protection or performance, even under severe or extended temperature range applications.

Outstanding wear protection

Advanced ashless (zinc-free) anti-wear additives provide protection over a wide range of conditions, including low and severe duty, and high-load operations. The very high viscosity index (VI) of HM 46, in combination with outstanding shear stability, help to ensure that critical oil film thicknesses are maintained in the highly stressed components of the hydraulic system. Protection is maintained even under high temperature and high load conditions.

Maintaining system efficiency

Superior cleanliness and outstanding filterability, excellent water separation, air release and anti-foam characteristics, all help to maintain or enhance hydraulic system efficiency. The excellent filterability is maintained even when the fluid is contaminated with water, with negligible production of the silts or gels that can block fine system filters.

HM 46 meet at the filling lines the requirements of max ISO 4406 21/19/16 class. As recognized by DIN 51524 specification, the oil is exposed to various influences with transport and storage that could effect the cleanliness level. These features contribute to extended filter life and allow the use of finer filtration for added equipment protection.

Main Applications

Mobile / exterior hydraulic applications

Hydraulic and fluid power transmission systems in exposed environments which are subjected to wide variations in temperature. The very high viscosity index of HM 46 helps deliver responsive performance from cold start conditions to full load, severe duty operation.

Precision hydraulic systems

Precision hydraulic systems require good control of fluid viscosity over the operating cycle and excellent fluid filterability, even when contaminated. HM46 provides these features and an additional level of temperature-viscosity stability compared to many ISO HV fluids.

Environmental impact

HM 46 has a reduced environmental impact in the event of a leak or accidental spillage compared to conventional zinc-based hydraulic fluids. This is achieved through the use of ashless anti-wear technology and low sulphur base oils. HM46 is 'not harmful' to freshwater and marine invertebrates (OECD 202, US EPA OPPTS 850.1035). For further reductions in environmental impact we offer the HE 46 Natura product .

Specifications, Approvals & Recommendations

- Denison Hydraulics(HF-0,HF-1 and HF-2)
- Eaton Vickers (Brochure 694)
- Cincinnati Machine (P-68,P-70 and P-69).
- Bosch Rexroth (mineral oil fluids for axial piston pumps RE 90220-01/09.09).
- ISO 11158 (HV fluids)
- DIN 51524-3 (HVLV oils)
- ASTM 6158 (HV mineral oils)
- SS 15 54 34 AV (ISO VG 46 and 68)
- SS 15 54 34 AM (ISO VG 32).

Compatibility & Miscibility

Fluid Compatibility

HM46 are compatible with most other mineral oil based hydraulic fluids. However, mineral oil hydraulic fluids should not be mixed with other fluid types (e.g. environmentally acceptable or fire-resistant fluids).

Seal & Paint Compatibility

HM 46 are compatible with seal materials and paints normally specified for use with mineral oils.

Typical Physical Characteristics

Properties	Method	HM 46
ISO Viscosity Grade	ISO 3448	46
ISO Fluid Type	ISO 6743-4	HV
Kinematic Viscosity @-20°C cSt	ASTM D 445	2200
Kinematic Viscosity @40°C cSt	ASTM D 445	46
Kinematic Viscosity @100°C cSt	ASTM D 445	8.1
Viscosity Index	ISO 2909	160
Density @15°C kg/m³	ISO 12185	870
Flash Point °C	ISO 2592 (COC)	210
Pour Point °C	ISO 3016	-39

These characteristics are typical of current production, variations in these characteristics may occur.

Health, Safety & Environment

Health and Safety

Guidance on Health and Safety is available on the appropriate Safety Data Sheet.

Protect the Environment

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

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