



Previous Name: **Shell Tellus DO**

# Shell Tellus S2 MA

## Industrial Detergent Hydraulic Fluid

- **EXTRA PROTECTION**
- **WATER TOLERANT**

Shell Tellus S2 MA fluids are high performance detergent based hydraulic fluids for use where emulsifiable fluids are preferred. Using proven ashless anti-wear technology they provide reliable performance in applications where contamination by aqueous fluids, such as cutting fluids, or where cleanliness or control of solid contaminants is important.

### Performance Benefits

- **Protection in severe environments**

The established detergent and modern ashless anti-wear technology in Shell Tellus S2 MA fluids provides extra protection in challenging environments by:

- Preventing water accumulation
- Dispersing solid contaminants
- Preventing corrosion in presence of water
- Providing low-friction anti-wear performance

Outstanding anti-wear and load-carrying properties in hydraulic and geared systems, especially under high load and low speed boundary lubrication conditions are demonstrated by the high Brugger and FZG load values.

- **Fluid life – Maintenance saving**

Shell Tellus MA fluids have good resistance to thermal and chemical breakdown to ensure consistent performance and protection throughout the fluid drain interval.

- **Maintaining system efficiency**

Superior cleanliness in severe environments helps keep the hydraulic system functioning efficiently. This is supported by excellent air release and anti-foam characteristics.

In addition, Shell Tellus S2 MA provides excellent filterability allowing the use of fine filters for extra protection and long equipment life.

Smooth operation of the hydraulic system is supported by the low-friction additive system that helps reduce stick-slip behaviour under high loads or poorly lubricated contacts.

Shell Tellus S2 MA has a minimum cleanliness of max ISO 4406 21/19/16 class (ex Shell filling lines) as defined by DIN 51524 specification for extra equipment and filter protection. As recognized by DIN 51524 specification, the oil is exposed to various influences with transport and storage that could effect the cleanliness level.

### Applications

- **Industrial hydraulic systems**

Shell Tellus S2 MA fluids are suitable for a wide range of industrial and manufacturing applications including:

- Injection moulding machines
- Electronically controlled hydraulic equipment
- Mobile equipment
- Headstocks and hydraulic controls in automatic lathes (when a synthetic or semi-synthetic water-extendible metal working fluid is used)

Where low start up and high service temperatures are encountered the use of Shell Tellus S2 VA 46 is recommended.

### Specifications and Approvals

Shell Tellus S2 MA fluids meet the requirements of:

ISO 11158 (HM fluids)  
ASTM 6158-05 (HM fluids)

Shell Tellus S2 MA fluids are approved by



Arburg (ISO 46)  
Bosch Rexroth (ISO 32 & 46)  
Mueller Weingarten (ISO 46)

For a full listing of equipment approvals and recommendations please consult your local Shell technical help desk.

## Health and Safety

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from your Shell representative.

## Compatibility

Shell Tellus S2 MA fluids are suitable for use with most hydraulic pumps. However, please consult your Shell Representative before using in pumps containing silver plated components.

## Fluid Compatibility

Shell Tellus S2 MA fluids 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

Shell Tellus S2 MA fluids are compatible with seal materials and paints normally specified for use with mineral oils.

## Protect the Environment

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

## Advice

Advice on applications not covered in this leaflet may be obtained from your Shell representative.

## Typical Physical Characteristics

Shell Tellus S2 MA	10	32	46
ISO Fluid Type	-	L-HM	L-HM
Kinematic Viscosity (ASTM D 445) @ 40°C, cSt @ 100°C, cSt	10 2.4	32 5.6	46 7.0
Viscosity Index (ISO 2909)	-	108	107
Density @ 15°C (ISO 12185), kg/l	844	872	877
Flash Point (ISO 2592) (Cleveland Open Cup), °C	147	210	223
Pour Point (ISO 3016), °C	-60	-24	-24

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.



## Viscosity - Temperature Diagram for Shell Tellus S2 MA

