



BIO-HYDRAULIC OILS S TYPE

PRODUCT DESCRIPTION

Hi-Tec Bio-Hydraulic Oils S Type are biodegradable hydraulic lubricants containing synthetic fatty esters, stabilizers, anti-wear additives, corrosion inhibitors and foam inhibitors. They are biodegradable according to OECD 301B and meet the HEES requirements.

Hi-Tec Bio-Hydraulic Oils S Type do not contain mineral lubricating oils: they are based on high quality synthetic fatty esters derived from Australian harvested vegetable oils, which in comparison with mineral oil based lubricants, are more easily bio-degraded, less hazardous and more suitable for use in environmentally sensitive areas. They are much less likely to cause any harm to soil, waterways or other parts of the environment than mineral oil based lubricants.

Hi-Tec Bio-Hydraulic Oils S Type display excellent viscosity - temperature characteristics due to the high naturally inherent viscosity indices of the vegetable oil based synthetic esters. They are specially formulated for high exposure or high temperature applications. The optimum operating temperature range is from -10°C to 100°C.

Compared with mineral oil based lubricants **Hi-Tec Bio-Hydraulic Oils S Type** are:

- Safer for users and the environment
- More easily bio-degradable
- Lower in toxicity – free from heavy metals
- Enhanced in performance characteristics
- Less changeable in viscosity as operating temperatures increase due to higher viscosity index
- Higher in lubricity resulting in lower equipment operating temperatures

Hi-Tec Bio-Hydraulic Oils S Type were developed to meet and exceed the current requirements of the agricultural, forestry, heavy engineering, construction and marine equipment industries.

Hi-Tec Bio-Hydraulic Oils S Type can be used in mobile or stationary equipment such as forklifts, cranes, tractors, graders, bulldozers, hoists, marine equipment, mining equipment, ski lifts, etc. and is particularly suited to use in environmentally sensitive areas such as:

- National or State parks
- Near or on waterways
- Recreational areas
- Road, rail and tramways
- Local Government Maintenance Vehicles
- Water, Electricity, Telecommunication and Gas Service providers etc.

Hi-Tec Bio-Hydraulic Oils S Type are fully miscible and compatible with mineral oils therefore changing to **Hi-Tec Bio-Hydraulic Oils S Type** is simple as no prior system flushing is required.

Hi-Tec Bio-Hydraulic Oils S Type contain ester components that may be incompatible with certain elastomers used as seals, hoses or other components in the customer's equipment. Prior to full scale commercial use, it is recommended that compatibility with system components is determined by the customer. For further advice contact your local reseller or supplier.

Avoid contamination with water. Where possible drying equipment should be used and water drained after any shut-down period.

Hi-Tec suggests that the equipment manufacturers' recommendations for viscosity grade, performance requirements and general operating conditions should be checked prior to use.

TYPICAL PROPERTIES

Properties	Unit	Test Method	ISO 32	ISO 46	ISO 68
Appearance	-	Visual		Clear yellow liquid	
Odour	-	-		Bland fatty	
Density @ 15 °C	kg/L	ASTM D4052		0.92	
Kinematic Viscosity @ 40 °C	mm ² /s	ASTM D445	32	46	68
Kinematic Viscosity @ 100 °C	mm ² /s	ASTM D445	6.8	9.0	12.5
Viscosity Index	-	ASTM D2270	180	180	185
Pour Point	°C	ASTM D97		-15	
Flash Point Open Cup	°C	ASTM D92		>150	
Corrosiveness to Copper	-	ASTM D130		1a	
Rust Preventing Characteristics	-	ASTM D665		Pass A & B	
Sulphated Ash	%m/m	ASTM D874		0.01	
Water Content	%v/m	ASTM D95		<0.1	