



## Biodegradable Hydraulic Fluid.

### APPLICATIONS

Environmentally Acceptable Lubricant (EAL) as per the US 2013 Vessel General Permit (VGP).

Hydraulic systems.

### FEATURES AND BENEFITS

**BIOHYDRAN TMP** is a biodegradable synthetic hydraulic fluid offering good lubricating properties. **BIOHYDRAN TMP** is designed for use when incidental spillage in environmentally sensitive areas may occur.

**BIOHYDRAN TMP** range is recommended for demanding hydraulic systems requiring hydraulic fluids with re-enforced anti-wear properties.

### SPECIFICATIONS AND APPROVALS

✓	ISO 15380: HEES	✓	European ECO Label FR/27/002
✓	US Vessel General Permit Compliant	✓	Swedish Standard SS 15 54 34

### TECHNICAL DATA : BIOHYDRAN TMP 46

CHARACTERISTICS	METHODS	UNITS	TYPICAL VALUES*
Appearance	Visual	—	Clear
Density at 15°C	ISO 3675	kg/m <sup>3</sup>	920
Kinematic viscosity at 40°C	ISO 3104	mm <sup>2</sup> /s	46
Kinematic viscosity at 100°C	ISO 3104	mm <sup>2</sup> /s	9.3
Viscosity index	ISO 2909	—	185
Flash Point (OC)	ISO 2592	°C	280
Pour Point	ISO 3016	°C	- 42

\*The specifications above are for illustrative purposes and communicated for information only.

## CUSTOMER BENEFITS

✓	Produced with renewable raw materials, <b>BIOHYDRAN TMP</b> contributes to CO <sub>2</sub> -emission reduction.
✓	High natural viscosity index gives <b>BIOHYDRAN TMP</b> a wide temperature operating window (-20°C to 80°C).
✓	The very high shear stability of <b>BIOHYDRAN TMP</b> will ensure the hydraulic equipment is kept to an optimum efficiency during the fluid service life.
✓	The good lubricating properties, as well as the very good wear and corrosion protection, will extend the life of the hydraulic system's moving components.
✓	As recommended in ISO 15380, please check with the equipment supplier to see whether the installation is suitable for the use of synthetic ester hydraulic fluids.
✓	Contact our technical service for advice changing from HM or HV fluids to Biodegradable HEES hydraulic fluids.

## GENERAL RECOMMENDATIONS

### COMPATIBILITY

Compatibility should be checked.

Please consult your Lubmarine Lubrication Engineer should you have any questions.

### STORAGE

This product should be stored under cover in clean, dry conditions and protected from frost.

Recommended storage temperature range is 5°C to 50°C.

Drums that are stored on deck should be raised on pallets and covered to protect from the elements.

Always check regularly for leakage.

## COMPLIMENTARY PRODUCTS AND SERVICES

✓	<b>DiagomarPlus</b> – Laboratory based used oil analysis program.
✓	<b>Tech'Care</b> – Suite of onboard testing kits.
✓	<b>Technical Expertise &amp; Support</b> – Total Lubmarine engineers are on hand at worldwide locations to assist with lubrication concerns.
✓	<b>Lube-On-Ship</b> – Visualize your lube oils needs aboard Total Lubmarine's innovative virtual vessel.



EU Ecolabel: FR/27/002

Total Lubmarine / 00-04-2021 / BIOHYDRAN TMP 46

This lubricant used as recommended and for the application for which it has been designed does not present any particular risk. A material safety data sheet conforming to the regulations in can be obtained via your Total Lubmarine technical advisor or from [sdstotalms.total.com](http://sdstotalms.total.com)

