



**BIODEGRADABLE
HYDRAULIC OIL**

Bio 40/68/Arctic:

A high performance, readily biodegradable hydraulic oil for use in any conditions where environmental safety is a concern.

Readily biodegradable hydraulic performance

- Made from high quality canola base stock for advanced biodegradability
- High performance additive package matches or exceeds performance of mineral and synthetic based oils
- Exceeds the requirements of biological degradation in 21 days as defined by the OECD guidelines and the CEC L-33-A-93 test method
- Meets manufacturers specifications for hydraulic pumps including Vickers and Denison Pump tests.
- High flashpoint and wide operating range including extreme cold.
- Readily separates water using an advanced additive package that greatly reduces, if not eliminates, the problems associated with water
- Reduced fluid operating temperatures resulting in extended pump, piston and rod life.
- Longer lasting metal components
- Reduced environmental damage and liability
- Extended hose life reducing the frequency of hose replacement
- Compatible with mineral oil based fluids

Environmentally sensitive areas and especially on water; Hydraulic Fluids must deliver on performance while minimizing impact on the environment. Marinus Bio40 is made of a blend of natural esters and a premium high performance additive package. The natural esters provide excellent rust and oxidization resistance (RO) to metal components. The additive package is designed to provide unequalled, anti-wear (AW) and load carrying abilities, minimize foaming, enhance demulsibility and maintain a high degree of biodegradability.

Modern high performance hydraulic systems rely on fluids that can resist changes in viscosity, as operating temperatures rise and fall. Shear stable viscosity modifiers provide higher viscosity indexes (VI) resulting in minimal temperature effects on fluid viscosity. Marinus Bio40 & Bio68 are formulated with enhanced VI properties that enable equipment to maintain maximum hydraulic efficiency and component protection over a wider temperature range allowing year round service.

APPLICATION

Marinus biodegradable hydraulic oils are for use in hydraulic systems where environmental sensitivity is a concern. For equipment specifying ISO 32 or 46 grade oils use Bio 48. For equipment specifying ISO 68 grade oils use Bio 68. Arctic grade is designed for use at sub zero temperatures. Always practice OEM recommended hydraulic system maintenance procedures. Marinus hydraulic oils are compatible with mineral based fluids however the mixing of fluids may reduce overall performance and biodegradability. Where possible drain entire system before adding biodegradable hydraulic oil.

Recommended Usage

Bio 40/68/Arctic is compatible with any hydraulic system where environmental sensitivity is a concern. Also ideal for lubricating pneumatic systems where the lubricant is exhausted into the air. Bio 40/68/Arctic also meets and exceeds the requirements of biological degradation as defined by the OECD guidelines and the CEC L-33-A-93 test method.

PERSONAL SAFETY, FIRST AID, STORAGE AND HANDLING