

Erifon 818

818, 818TLP & 818TLP LV Motion compensator Fluid

General Description



as protect systems from corrosion and wear.

Erifon 818 fluids have been designed for use In motion compensator systems for drilling systems and Tension Leg Platforms. The fluids are water-based with low compression/ignition ratios to give excellent fire and explosion resistant properties at the high pressures experienced in compensator systems. The formulations ensure good system response over a wide temperature range with the viscosity index kept to a minimum. The fluids contain a range of additives that ensure fluid stability as well



Safety

Fire and explosion resistant fluids are of particular importance in high-pressure systems where the fluid is in direct contact with high-pressure air. Water based fluids like Erifon 818 compensator fluids are regarded as the most resistant to fire and explosion. Erifon 818 fluids are more acceptable than other types of compensator fluid for toxicological reasons. Flushing with water will remove any contamination from spills without the need for special cleaning materials.



Physical Properties

| | 818 | 818TLP | 818TLP LV |
|---|--------------------------------|--------------------------------|-----------------------|
| Appearance | Green, Slightly Viscous Liquid | Green, Slightly Viscous Liquid | Green Mobile Liquid |
| Viscosity (cSt) | | | |
| -20°C (-4°F) | 750 | 750 | 42.84 |
| 0°C (32°F) | 125 | 125 | 11.68 |
| 20°C (68°F) | 35 | 35 | 4.87 |
| 40°C (104°F) | 17 | 15 | 2.6 |
| Viscosity Index (ASTM D2270) | 165 | 165 | |
| Pour Point | Below - 45°C (-79 °F) | Below - 45°C (-79 °F) | Below - 45°C (-79 °F) |
| pH Value | 9.1 | 9.1 | 9.2 |
| Specific Gravity @ 15.6°C (60°F) | 1.085 | 1.087 | 1.075 |
| Specific Heat | 0.8 | 0.8 | 0.8 |
| Maximum Recommended Operating Temperature | 60°C (140°F) | 60°C (140°F) | 60°C (140°F) |

Material Compatibility

Erifon 818 fluids contain corrosion inhibitors to fully protect ferrous and yellow metal alloys from corrosive attack both in the liquid and vapor phases. Aluminum should be hard anodized, cadmium coatings should be fully passivated and chrome plating should be of sufficient thickness to avoid porosity. Zinc coatings should not be used. Erifon 818 contains excellent antiwear and anti-scuffing properties. Erifon 818 has the additional benefit of a lubricant designed for combating the problem of 'stiction' that can occur where movement of hydraulics is minimal. Erifon 818 fluids promote long life in seals and packing material. The fluids have been shown to have little effect on natural or pure synthetic rubber packing such as Butyl, EPR, common Fluoroelastomers, Teflon, Silicone, Buna and Neoprene. (Porous materials are unsuitable, as they will absorb fluid over a period of time that can cause softening and swelling.) Erifon 818 fluids are compatible with most coatings commonly used offshore such as cured epoxy, phenolic and nylon based products. Less resistant coatings may require washing down should a spillage occur.



Stability

The base fluid formulation is highly resistant to attack from microbes; extra additives ensure full protection to minimize contamination possibilities. This is of special value in warmer climates.

System Response

The viscosity characteristics of Erifon 818 ensure efficient system response across the whole range of climatic conditions encountered while drilling offshore. It has proved particularly suitable for use in cold areas, especially where choppy seas prevail, or where drill string loads are light, and more viscous fluids give a sluggish compensator response.

Fluid Installation

Details will vary from system to system, therefore you may wish to contact MacDermid's technical services staff that will be happy to advise. The following procedure gives a general outline of how to install Erifon 818 fluids. Successful installation will help to ensure reliable operation of the Erifon 818 fluid.

- Drain the system as thoroughly as is practical. Blow out hydraulic lines and manually clean up valves and reservoirs.
- Fill the system to half the system capacity with the Erifon fluid or Erifon Flushing Fluid, cycle the system to flush all internal surfaces.
- Drain the system thoroughly; the flushing fluid may be retained for up to four unit flushes, provided that it is not highly contaminated. (A unit flush refers to a single drill string compensator or guideline or riser tensioner).
- Recharge fully with fresh Erifon 818 fluid.
- After two to three days take samples of fluid from the systems lowest point and a point on the fluid surface. If a separated oil layer can be observed on the fluid surface or a layer of phosphate ester has sunk to the bottom then repeat the flushing operation. Should there be any doubt; contact MacDermid's Technical Service for advice.
- After one week of operation, send fluid samples to MacDermid for analysis. Our Offshore Fluid Division performs a fluid monitoring service free of charge and we recommend that you take advantage of this service as part of a fluid preventive maintenance program.



Fluid Maintenance

As with all aqueous fluids, it is essential to maintain the water content within certain limits if safety is not to be affected by reduced fire and explosion resistance. The rate of water loss in motion compensator systems is extremely low, as they operate at little more than ambient temperature and are generally not open to the atmosphere. Service samples of Erifon 818 taken from systems having been in service for several years show no detectable loss, but it is advised that a check on the fluid be carried out at intervals of three to four months. In the unlikely event that the water content drops by more than 3%, a correction may be made by adding the appropriate amount of distilled or deionized water, but under no circumstances should this be carried out without prior consultation with MacDermid staff. The taking of samples may be made easier by the installation of suitable sample ports at strategic points about the system. It should be remembered that the sample taken would only be of use when analyzed if it is representative of fluid within the system as a whole.

Approvals

Erifon 818 is approved for use in compensator and tensioner systems manufactured by Brown Brothers & Co. Ltd., Maritime Hydraulics a.s., Vetco Gray, National Oilwell, Hydraudyne and Western Gear Corporation.

Information given in this publication is based upon technical data gained in our own and other Laboratories and is believed to be true. However the material is used in conditions beyond our control thus we can assume no liability for results obtained or damages incurred through the application of the data presented herein.



MacDermid Offshore Solutions
223 N. Brockman St.
Pasadena, TX 77506
Order Desk: (800) 521-2589
Sales Office: (713) 472-5081 fax 2440
Email: offshoreorders@macdermic.com

MacDermid Offshore Solutions
Cale Lane
New Springs, Wigan
WN2 1JR, UK
Sales Office: +44(1942) 501000 fax +44(1942) 501110
Email: wigansales@macdermid.com

