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Reolube® Turbofluid 46B

Performance comparison with alternative EHC fluid

Reolube® Turbofluid 46B displays superior hydrolytic stability, resulting in reduced maintenance costs and longer fluid life. Phosphate ester self-extinguishing fire resistant fluids have been used for decades in the electrohydraulic control (EHC) systems of power stations, with hydrolytic stability demonstrated to be key for fluid longevity in the application. The industry has seen a short service life for an alternative butylated EHC fluid, whereas **Reolube® Turbofluid 46B** is proved to be a longer lasting product, demonstrated both in the field and by the data below. The superior hydrolytic stability of **Reolube® Turbofluid 46B**, as compared to the alternative fluids on the market, is provided by its unique blend of components.

Reolube® Turbofluid 46B superior stability

Reolube® Turbofluids are high performance phosphate ester self-extinguishing fire resistant fluids intended for use in applications where fire safety is critical. Developed for use in EHC systems of steam turbines with fine tolerance servo valves, **Reolube® Turbofluids** also have application in gas turbines, turbo-compressors, reactor coolant pumps and generators as well as conventional applications. These fluids are manufactured from specially purified phosphate ester base stocks and contain additives providing improved stability and lubrication properties.

Reolube® Turbofluid 46B is an advanced low toxicity fire-resistant hydraulic fluid that is trixylenyl phosphate-free and is designed specifically to comply with future EU REACH regulations for use in EHC systems. It is a fully formulated fluid based on tert-butylphenylphosphate.

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During normal service in hydraulic systems it is possible for EHC fluids to come into contact with water. Therefore to ensure long, trouble free, service life it is critical for EHC fluids to be as hydrolytically stable as possible. Hydrolysis produces acid which can cause equipment corrosion and accelerates degradation of the EHC fluid.

Extended DIN 14833 test results on two current batches of each commercial fluid are shown in Chart 1. The average **Reolube® Turbofluid 46B** acid value was 3.78 mg KOH/g while the average value for the alternative fluid was 10.36 mg KOH/g. In addition an extended ASTM 2619 hydrolysis test shows, in Chart 2, that after 96 hours the **Reolube® Turbofluid 46B** acid value was 16.21 mg while the acid value of the alternative fluid was 29.63 mg KOH/g. These two tests demonstrate that **Reolube® Turbofluid 46B** is approximately twice as hydrolytically stable as the alternative fluid.

Chart 1: Extended DIN 14833 hydrolysis test

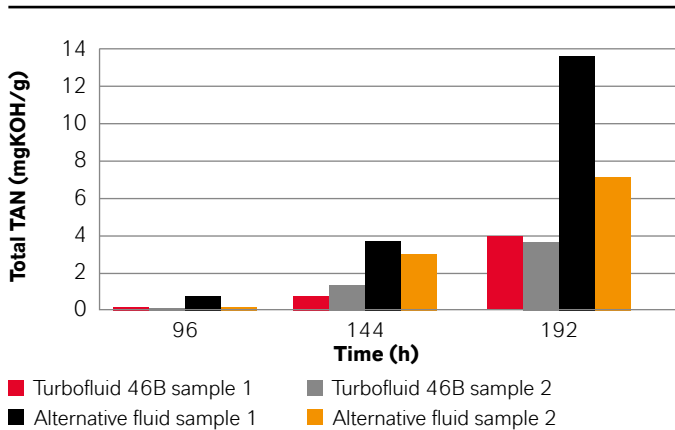
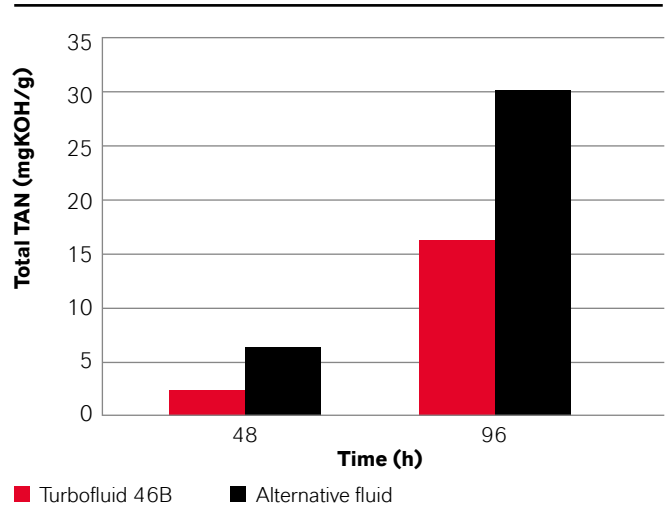


Chart 2: Extended ASTM 2619 hydrolysis test



Hydrolytic stability is critical for the longevity of fire-resistant EHC fluids. This extended hydrolysis test data explains why **Reolube® Turbofluid 46B** exhibits superior stability and longevity in the field compared to an alternative fluid. This advantage helps power generation plants reduce maintenance costs and minimize unit downtime.



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