

FUNCTIONAL HF-590

LuSC APPROVED ADDITIVE PACKAGE FOR BIOBASED HYDRAULIC FLUIDS

APPLICATION:

FUNCTIONAL HF-590 is a light color, low odor additive package composed of 100% LuSC approved components. **FUNCTIONAL HF-590** can be used to formulate antiwear hydraulic fluids with biobased esters or vegetable oils as base fluids. Preferably, a LuSC approved (bio) base fluid would be most desirable. **FUNCTIONAL HF-590** does not contain zinc or heavy metals. The package provides oxidation/corrosion protection, extreme-pressure/anti-wear activity, and foam resistance. **FUNCTIONAL HF-590** is highly compatible in base fluids such as vegetable oils, synthetic esters (such as dioctyl adipate), PAOs and groups I – III petroleum base oils.

COMPOSITION:

FUNCTIONAL HF-590 is a mixture of oxidation inhibitors, antiwear agents, ferrous, and non-ferrous corrosion inhibitors designed to give optimum performance in biobased esters and vegetable oils.

Typical Properties	
Appearance	Clear liquid
Odor	Mild
Color, D1500	2.5
Lbs per Gallon	8.09
Flash Point, COC	> 200°C (> 392°F)
Kinematic Viscosity, D445	90 cSt at 40°C

TREAT LEVEL:

The recommended treat level of **FUNCTIONAL HF-590** is 4.5% by weight in a suitable base stock. The viscosity of a vegetable oil based hydraulic fluid may be raised to ISO 46 or ISO 68 grade with an LuSC approved thickener such as V-508F or V-508M. It is recommended that the user test **FUNCTIONAL HF-590** thoroughly in the intended base oil and application before use. Additional demulsifier and pour point depressant may be required in certain base oils, which should be determined by the end user.

HANDLING:

Use normal safe procedures for handling and blending **FUNCTIONAL HF-590**. Heating **FUNCTIONAL HF-590** before blending is not required but may facilitate blending. Review the current Safety Data Sheet before use.

This Technical Data Sheet and the Safety Data Sheet contain information believed to be accurate and reliable. No warranty is made, however, to information beyond the control of FUNCTIONAL PRODUCTS INC. The engineering and management personnel of the user are responsible for determining the suitability of this or any product for any specific application, and this information is offered to them for that purpose.

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