FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

Technical Data Sheet

FUNCTIONAL V-158P2

50 SSI PAO-BASED VISCOSITY INDEX IMPROVER

APPLICATION:

FUNCTIONAL V-158P2 is a readily biodegradable olefin copolymer viscosity index improver formulated in low viscosity polyalphaolefin (PAO) that may be used to prepare PAO hydraulic fluids (HEPR) with greater biodegradability or to improve the low temperature fluidity and pour point of non-PAO formulations. **FUNCTIONAL V-158P2** is also an economical replacement to high viscosity metallocene PAO for increasing viscosity without diminishing compatibility with other polymers or additives in the formula.

COMPOSITION:

FUNCTIONAL V-158P2 is a concentrated olefin copolymer in light polyalphaolefin.

Typical Properties	
Specific Gravity	0.81
Lbs per Gallon	6.75
Color (ASTM D1500)	Colorless, Hazy (< 1.0)
Flash Point	146°C (295°F)
Kinematic Viscosity (ASTM D445)	1300-1500 cSt at 100°C 12000 cSt at 40°C (VI ~370)
Thickening Efficiency (10wt%; KV at 100°C)	12.3 cSt in ISO 32 Gr. I 11.9 cSt in PAO6
Shear Stability (PSSI; 10wt% in ISO 32 Gr. I)	22 SSI by ASTM D6278, 30 cycles
Pour Point (ASTM D97)	-27°C / - 16.6°F
Biodegradability (CEC L-33-T-82)	Approx. 68% (Readily)
Biobased Content	0wt%

TREATMENT LEVEL:

Treatment levels from 5 - 20% are typical in industrial lubricants and greases.

See next page for comparison of **FUNCTIONAL V-158P2** against 100 cSt PAO.

HANDLING:

Due to the viscosity of **FUNCTIONAL V-158P2**, elevated temperature (up to approximately 90°C or 200°F) can facilitate handling. Safe handling precautions are the same as those to be taken with the base oil; see the current Safety Data Sheet.

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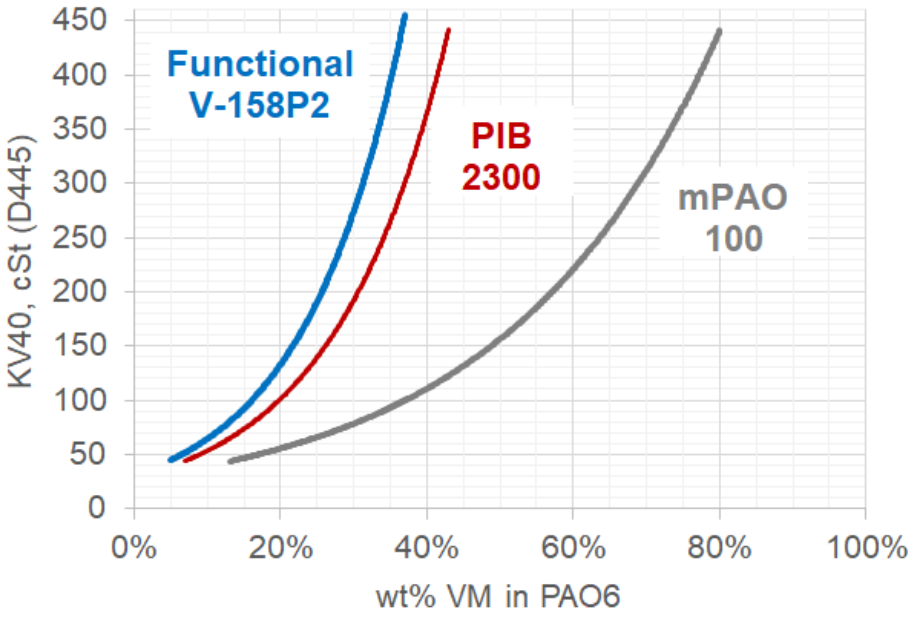
Comparison of V-158P2 vs. Synthetic Viscosity Modifiers in PAO 6:

	PAO	PB	OCP	
	mPAO 100	**PIB 2300**	**Functional V-158P2**	
ISO VG	**wt%**	**wt%**	**wt%**	**VI**
ISO 46	13%	7%	5%	178
ISO 68	25%	14%	11%	186
ISO 100	40%	20%	16%	193
ISO 150	50%	27%	22%	201
ISO 220	60%	32%	27%	207
ISO 320	70%	38%	32%	213
ISO 460	80%	43%	37%	220



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