FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

2024 Applications Chart

Macedonia, OH

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www.functionalproducts.com

NSF HX-1 Biobased Biobased Metalworking Engine Oil Hydraulics Gear Oil Bar & Chain Greases Lubricant Oil	colabel LuSo
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Tackifiers			Treat Level wt %						10
V-176	Versatile PIB tackifier for all applications in industrial lubricants and greases.	3,000	0.5 – 2	•	• •	,	•		
V-178	High strength, efficient PIB tackifier best suited for machining oils and slideway lubricants.	4,000	0.5 – 2	•	• •	,	•		
V-177	Concentrated heavy duty PIB tackifier specialized for greases, coatings, and rust preventatives.	10,500	0.5 - 2	•	•	,	•		
V-298	Clear and colorless PIB tackifier for textile oils or other lubricants that require no color/staining.	4,000	0.5 - 2	•	•)	•		
PARATAC	Legacy PIB tackifier with long-standing OEM approvals.	3,000	0.5 - 2	•	•	•	•		
V-188	Specialty OCP tackifier for increased shear and thermal stability in gear oil. NSF HX-1 and Ecolabel available.	4,000	0.5 - 2	•	•	•	•	• •	•
V-422	Incidental food contact PIB tackifier for NSF H1 lubricants and greases.	3,000	0.5 - 2	•	•	•	•	•	
V-584	Unique bio tackifier for vegetable oil and esters; NSF HX-1 and Ecolabel LuSC available.	ISO 2,500	3 – 10	•	•	•	•	• •	•
V-802	Aqueous tackifier for water and emulsion lubricants. NSF HX-1.	ISO 40,000	0.3 - 5		•		•	•	
★ V-870	Clear and colorless tackifier and anti-mist agent for silicone oils, lubes, and greases.	8,500	0.2 4	•	•	•	•		

Viscosi	ty Modifiers (VM) & Base Stocks	Polymer Chemistry	Shear (SSI)	Thickening Eff. cSt @ 100C	Typ. Viscosity cSt @ 100C	Treat Level wt %							
V-158FN	Economic naphthenic-based viscosity modifier. V-158F for paraffinic-based.	OCP	50	10% = 11.7	1,400	5 – 10	•	• •			•		
V-158	Liquid OCP viscosity modifier.	OCP	45	10% = 11.9	1,200	5 – 10	•	•		•	•		
V-166	Liquid OCP viscosity modifier.	OCP	35	10% = 11.4	1,200	5 – 10	•	•	•	•	•		
V-160	Liquid OCP viscosity modifier. V-460 for NSF HX-1.	OCP	22	10% = 11.0	1,000	5 – 10	•	•		•	•	•	
V-739	High viscosity polybutene and bright stock replacement. (45% KRL shear)	EPO	2	10% = 30.4	62,000	5 – 20	•	•	•	•	•		
V-705	Very low temperature polyolefin base stock for VHVI HF. (4% KRL shear)	Polyolefin	0	10% = 20.3	6,500	5 – 10	•	•	•		• •	,	
V-515	Liquid bio VM for vegetable oil and PAO/ester blends. Adds tack for chain oils.	Bio	50	10% = 12.0	8,000	5 – 10		• •			• •	, 📉	•
V-521	Liquid bio VM for vegetable oil, esters. Low temperature flow.	Bio	30	10% = 16.4	5,000	5 – 10		•	•		• •	, 📉	•
V-508M	Liquid bio VM for vegetable oil, esters. Widest compatibility in esters.	Bio	28	10% = 18.4	2,500	5 – 10		• •			• •	•	•
MD-8004	Dispersant PMA viscosity modifier for tractor, ATF. MD-2200 for 3 SSI.	D-PMA	40	10% = 16.9	550	5 – 20	•	•		•	•		
MH-4500	PMA viscosity modifier for general use (65% KRL shear)	PMA	15	10% = 12.3	1,500	5 – 20	•	•	•	•	•		
MH-2000	PMA viscosity modifier for industrial hydraulic oils (35% KRL shear)	PMA	1	10% = 11.1	1,000	5 – 20	•	•	•	•	•		
MB-1010	PMA base stock for gear oils and full synthetic lubes (15% KRL shear)	PMA	0	10% = 8.6	900	5 – 20	•	•	•	•	•		П

	Grease	Additives	Recommended For:	Treat Level wt %					
	V-207	Flake polymer for water resist., oil bleed, shear stability, and tack. V-211 for NSF HX-1.	Ca / Al	0.5 - 2	•				
	V-4020	Low treat reactive pellet to improve water resistance. V-4040P for faster dissolving colorless flake.	Li	0.2 – 1	•				
	V-4004A	Pre-dissolved liquid reactive polymer for fast and complete addition to grease. V-4004P2 for oil-free full synthetic.	Li	3 – 5	•				
	V-4700	Liquid reactive polymer for improving synthetic-based greases (mPAO, PB, etc.) which don't respond to other options.	Li / Ca	1 – 5	•			•	,
	V-191	Concentrated polymer emulsion to improve water spray-off, oil bleed, and tack. Best for clay or silica greases.	Clay / Silica	0.5 - 2	•			• •	,
*	V-4316	High SSI liquid styrene copolymer for improving the oil bleed and compatibility of polyurea thickeners. V-4311 for low SSI.	Polyurea	5 – 10	• •	•	•	•	

	Special	ty Packages & Additives	Application	Treat Level wt %								
	CI-426	Amine phosphate antiwear and corrosion inhibitor, NSF HX-1. AW-116 for improved wear.	Antiwear	0.5 - 2	• (• •	•	•	•	• •	•	
	DM-240	Excellent demulsifier for petroleum oil lubricants. DM-400 for Ecolabel and NSF HX-1.	Demulsibility	0.1 – 1	•		•	•	•	• •	•	•
7	GA-360	Industrial gear package for US Steel . GA-360M for micropitting resistance and AGMA 9005. GA-400 for NSF H1.	Gear	2 – 6	•	•	•	•		• •	•	
	HF-595	Ecolabel biobased HF package (2.2wt%). HF-560 for biodegradable industrial HF (1.9wt%).	Hydraulic	2.2	•	•	•	•		• •	•	•
	PD-620	Pour point depressant for light Gr. I/II oils. PD-610 for heavy Gr. I/II oils. PD-630 for Gr. III oils. PD-585 for Ecolabel biobased.	Low Temp.	0.1 - 1.0	•	•	•	•	•	• •	•	•
*	PD-564	Unique pour point depressant for EAL synthetic base stocks like polymer esters, estolide, and biobased PAO.	Synthetics	0.5 - 1.0	•	•	•	•	•	• •	•	
7	Q-145	Economic quench oil package for petroleum-based quench oils. Q-249 for premium longer and reduced tarnish.	Quench	2 – 3						•		
	RD-540	Emulsifying EP rock drill and air tool package for petroleum and biobased. RD-540CP for demulsifying.	Rock Drill	2.2	•	•	•	•		• •	•	
	SGP-567	Multipurpose forestry and saw guide oil package. SGP-563 for Ecolabel.	Saw Guide	1.5	•	•				• •	•	•
	WA-64	Modern low color/odor way oil technology. Stick-slip pass. WA-60SF for colorless sulfur-free way oils.	Way Oil	1.75	•	•	•	•		•	•	

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