FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

2021 Applications Chart

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Tackifiers		Typical Viscosity	Treat Level							
		cSt @ 100C	wt %							
V-176	Good shear stability and good string length. PIB in paraffinic oil.	3,000	0.5 - 2.0	• •	•			•		
V-177	Concentrated PIB tackifier with good shear stability and string length.	10,500	0.5 - 2.0	• •	•			•		
V-178	Good shear stability and good string length. High concentrate PIB in paraffinic oil. V-378 for synthetics and high temperature.	4,000	0.5 - 2.0	•	•			•		
	V-175 Ultra-high molecular weight PIB in oil for low treat, textile/fiber applications. V-475 for HX-1 with high color stability.		0.5 - 2.0	•	•			•		
PARATAC	Good shear stability and good string length. PIB in paraffinic oil. PARATAC XT for 900 cSt @ 100°C with good string.	3,000	0.5 - 2.0	•		•		•		
V-188	OCP tackifier with excellent shear stability and string length. V-425 for NSF HX-1. V-188P2 for Ecolabel LuSC and VGP.	4,000	0.5 - 2.0	•		•	•	•	•	•
V-422	Tackifier for NSF HX-1, PIB in white oil. Good shear stability and good string length.	3,000	0.5 - 2.0	•	•	•		•	•	,
V-584	Tackifier for vegetable oil and fatty esters. Ecolabel LuSC/VGP. Provides anti-mist in low viscosity esters.	2,500 @ 40C	3.0 - 10.0	• •	•	•		•	•	•
V-802P	Water-white aqueous tackifier for environmentally friendly water based, PAG, and emulsion lubricants.	40,000 @ 40C	0.3 - 5.0		•			•	•	,

Viscosi	ty Modifiers	Shear Stability Index (PSSI) ASTM D6278	Thickening Efficiency in ISO 32, cSt @ 100C	Typical Viscosity cSt @ 100C	Treat Level wt %								
V-158F	Liquid OCP viscosity modifier in paraffinic oil. V-158FN in naphthenic, V-158P2 in PAO.	45	10% = 12.5	1,600	5 – 10	•	•		•	•	•		
V-113	Bale form OCP viscosity modifier. 6.6wt% = 1000 cSt @ 100°C	50	1% = 14.6	Bale	0.5 - 2.0	•	•	•	•	•	•		
V-201	Pellet form OCP viscosity modifier. 5.4wt% = 1000 cSt @ 100°C	60	1% = 21.0	Pellet	0.5 - 2.0	•	•		•		•		
V-255	Pellet form shear stable OCP viscosity modifier. 12% = 1000 cSt @ 100°C	25	1% = 10.5	Pellet	0.5 - 2.0	•	•	•	•	•			
V-460	Liquid shear stable OCP viscosity modifier, NSF HX-1.	22	10% = 13.6	3,000	5 – 10	•	•		•			•	
V-508F	Liquid viscosity modifier for vegetable oil, esters. Most concentrated and versatile option.	28	10% = 22.9	7,000	5 – 15		•	•	•		• •	,	•
V-521	Liquid viscosity modifier for vegetable oil, esters. Exceptional low temperature fluidity.	30	10% = 16.4	5,000	5 – 15		•		•		•	,	•
V-515	Liquid viscosity modifier for vegetable oil and PAO/ester blends. Slight tack.	50	10% = 12.0	8,000	5 – 15	•	•	•	•		• •	,	•
V-705	High performance liquid polyolefin viscosity modifier. 500 VI. (KRL shear loss = 4%)	0	10% = 8.6	6,500	2 – 20	•	•	•	•	•	• •	,	
V-711	Crumb form styrene copolymer with excellent thickening efficiency and shear stability.	7	1% = 9.8	Crumb	1 – 5	•	•	•	•	•	•		
V-820	Water soluble powder to thicken water-based lubricants, emulsions. Gels/greases at 2-3wt%.	N/A	0.5%,water=ISO 100	Powder	0.1 – 2		•				• •	,	
MH-2000	Liquid PMA VII with exceptional shear stability for hydraulic fluid (KRL shear loss = 35%)	1	10% = 9.2	1,100	5 – 20	•	•	•	•	•	• •	,	
MD-8004	Liquid dispersant PMA for improved varnish/sludge control in tractor HF and ATF.	40	10% = 16.9	1,000	1 – 5	•	•	•	•	•	• •	, 🔲	

Grease Additives		Treat Level wt %					
V-207	Powder polymer for quick dissolving in cooling oil. Superior shear stability and water spray-off for most greases. V-211 for NSF HX-1.		•				•
V-4020	Reactive pellet polymer to reduce water spray off at low treat. V-4028 for lower color and improved solubility in highly refined, lower solvency base oils.		•				
V-4004A	V-4004A Concentrated liquid reactive grease polymer for ease of addition. V-4033 for extra concentrated liquid, 1.5 - 2.0wt% treat.		•				
V-191	191 Polymer emulsion stable against water during and after production. Improved water spray-off and tack in organic and synthetic greases.		•			• •	
V-4700	4700 Liquid grease polymer for improving water resistance of synthetic-based greases (mPAO, PB, etc.) which are incompatible with most polymer additives.		•			•	
V-508S	8S Pellet form viscosity modifier for building base oil viscosity in veg oil, ester, or PAG greases. Improves water resistance, yield, and tack.		•	•	•	• •	•

Specialty Packages & Additives		Treat Level wt %								
CI-426	Corrosion inhibitor and anti-wear additive for HX-1. CI-427 for low color and wide read-across. For additional extreme pressure, CI-426EP.		•	•	•		• (•	•	
	Multifunctional industrial gear oil package. Variable treat rate. >60 lb. Timken, 12+ FZG, up to 620 kgf EP. Meets US Steel 224, DIN 51517 Part 3		•	•	•			•		
HF-595	Biobased hydraulic fluid package for Ecolabel and EAL hydraulics. Compatible in a variety of eco-friendly base fluids and mineral oils.	2.2	•			•		•		•
RD-540	540 Biobased rock drill, air tool, and open gear package. >70 lb. Timken and 315 kgf EP weld. Emulsfying. RD-540CP for demulsifying.		•	•	•			•		
	4 Light color, low odor, compatible in a range of base oils. Cincinnati Fives stick-slip test. WA-60SF for colorless sulfur-free way oils.		•	•	•	•		•		
SGP-563	Low friction anti-wear and corrosion resistant package for saws, chains, forestry. Greatly reduced operating temperatures. Ecolabel LuSC listed and VGP.		•	•	•	•		•		•
V-162	Anti-mist additive for oil based coolants. Use MW-612 for aqueous or oil-water fluids.		•		•		•	•		
DF-500	Defoamer for veg oil and fatty esters. Silicone-free. Ecolabel LuSC and VGP. DF-400 for NSF HX-1 and use in mineral oil, PAO, ester.		•	1	•		• (•	•	•
PD-585	5 Pour point depressant for vegetable oils. Ecolabel LuSC and VGP and US EPA Safer Choice. PD-590 for lower handling viscosity.		•	•	•		• (•		•
PD-620	Pour point depressant for Gr. I/II base oils. PD-610 for medium to heavy Gr. I/II oils. PD-630 for Gr. III oils.		•	•	•	•	•	•		

Purchasing Information

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