

NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
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Tackifiers		Typical Viscosity cSt @100 °C	Treat Level wt %	NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
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 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 HX1 with high color stability.	6,000	0.5 – 2.0			•	•	•	•		
V-198A	Excellent string length and fair shear stability. PIB in paraffinic oil. V-498 for HX1 applications.	5,000	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.	4,000	0.5 – 2.0			•	•	•	•	•	
V-422	Good shear stability and good string length. HX1 grade, PIB in technical white oil.	3,000	0.5 – 2.0	•							
V-584	LuSC/VGP and HX1 tackifier for vegetable oil formulations. Provides excellent string.	2,500 @ 40 °C	3.0 – 10.0	•	•	•	•	•	•	•	
V-802P	Water-white aqueous tackifier for environmentally friendly water based, PAG, and emulsion lubricants.	40,000 @ 40 °C	0.3 – 5.0	•	•						•

Viscosity Modifiers		Shear Stability Index (PSSI) ASTM D6278	Thickening Efficiency in ISO 32, cSt @ 100 °C	Typical Viscosity cSt @100 °C	Treat Level wt %	NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
V-158F	Liquid OCP viscosity modifier in paraffinic oil.	45	10% = 12.5	1,600	5 – 10			•	•	•	•		
V-135	Bale form OCP viscosity modifier. 8% = 1000 cSt @ 100 °C	33	1% = 11.0	—	0.5 – 2.0			•	•	•	•		•
V-255	Pellet form shear stable OCP viscosity modifier. 12% = 1000 cSt @ 100 °C	25	1% = 10.5	—	0.5 – 2.0			•	•	•	•		
V-460	Liquid shear stable OCP viscosity modifier, HX1 approved.	20	10% = 13.6	3,000	5 – 10	•		•	•	•	•		
V-515	Liquid viscosity modifier for vegetable oil.	50	10% = 12.0	8,000	2 – 15		•	•	•	•	•		•
V-508F	Liquid LuSC/VGP and HX1 viscosity modifier for vegetable oil and esters.	28	12% = 45.0	7,000	5 – 10	•	•	•	•	•	•		•
MD-8000	Liquid dispersant PMA for improved varnish/sludge control in tractor HF and ATF.	40	10% = 16.0	2,000	1 – 5			•	•	•	•		
MN-3500	Liquid PMA VII in naphthenic oil for extreme low temperature applications.	9	10% = 12.0	900	5 – 20			•	•	•	•		•
MH-2000	Liquid PMA VII with exceptional shear stability for hydraulic fluid (KRL shear loss = 35%)	1	10% = 9.2	1,100	5 – 20			•	•	•	•		•
MG-3000	Liquid PMA VII with exceptional shear stability for gear oils (KRL shear loss = 20%)	0	10% = 8.6	50	10 – 40			•	•	•	•		•

Grease Additives		Treat Level wt %	NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
V-207	Powder polymer for quick dissolving in cooling oil. Superior shear stability and water spray-off for most greases.	0.5 – 2.0			•					
V-4020	Pellet polymer to reduce water spray off in grease at low treat. V-4004A for convenient liquid form.	0.2 – 1.0			•					
V-191	Polymer emulsion stable against water during and after production. Improved water spray-off and tack in organic and synthetic greases.	0.5 – 2.0			•					
V-4270	Liquid polymer to improve shear stability, water washout, and water spray-off in grease.	3.0 – 5.0			•					
V-4051	Liquid polymer concentrate in bio-based ester to improve shear stability and water spray-off. Easily handled.	0.5 – 2.0	•		•					
V-4060	Flake polymer to improve water spray off and grease consistency in HX1 greases.	0.5 – 2.0	•		•					

Specialty Packages & Additives		Treat Level wt %	NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
CI-426	Corrosion inhibitor and anti-wear package for HX1 applications. For extreme pressure, CI-446EP in white oil and CI-526EP in veg oil.	0.5 – 2.0	•		•	•	•	•	•	
GA-614	Multifunctional industrial gear oil package for mineral and vegetable oils.	1.5 – 3.0		•	•	•	•	•	•	
HF-580	Biobased ashless hydraulic fluid package. Passes Vickers V104C pump test. Compatible in a variety of base fluids. HF-590 for LuSC Eco-Label.	2.5		•	•	•	•	•	•	•
RD-535	Biobased Gear Oil Package >70 lb. Timken and weld load 250 kg. Additive package for rock drill, grease, or open gear application.	2.0 – 7.0		•	•	•	•	•	•	
SGP-567	Biobased saw guide oil package containing friction modifier, corrosion inhibitor and anti-wear agents. SGP-571 for LuSC Eco-Label.	1.5		•	•	•	•	•	•	
V-162	Anti-mist additive for oil based coolants. Use MW-612 for aqueous or synthetic fluids.	0.02 – 0.1					•			•
WA-60SF	Light color, low odor sulfur-free way oil package. Passes Cincinnati Fives stick-slip test. Adds no color to allow water-white way oils.	1.5				•	•	•	•	
WA-64	Light color, low odor, compatible in a range of base oils. Cincinnati Fives stick-slip test.	1.75				•	•	•	•	

Cold Flow Improvers		Treat Level wt %	NSF	Biobased	Bar & Chain Greases	Lubricating Oils	Metalworking Gear Oils	Engine Oils	Anti-mist	Hydraulic Fluid
PD-585	Concentrated cold flow improver for vegetable oils. Excellent performance in vegetable oils as PPD and thickener: 1800 cSt @ 100°C, 4 PSSI	0.1 – 1.0		•	•	•	•	•	•	•
PD-590	Readily biodegradable cold flow improver, meets LuSC Eco-Label and EPA Safer Choice certifications. No known carcinogens.	0.1 – 1.0		•	•	•	•	•	•	•
PD-610	Mineral oil pour point depressant for industrial lubricants in Gr. I/II oil to -55 °C. PD-620 for economic Gr. I oils. PD-630 for Gr. III oils.	0.1 – 0.5			•	•	•	•	•	•

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