

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

Viscosity Modifiers (VM) & Base Stocks		Shear Stability Index (PSSI)	Polymer Chemistry	Thickening Eff. cSt @ 100C	Treat Level wt %															
V-158FN	Economic naphthenic viscosity modifier. V-158F for paraffinic Group II oil.	50	OCP	10% = 11.7	5 – 10	●	●	●				●								
V-166	Liquid OCP viscosity modifier. Lower cost V-166B in Group I and V-166N in naphthenic.	35	OCP	10% = 11.4	5 – 10	●	●			●	●	●								
V-160	Liquid OCP viscosity modifier. V-460 for NSF HX-1.	22	OCP	10% = 11.0	5 – 10	●	●			●	●	●								
V-4314	Liquid shear styrene olefin copolymer, 20-25 SSI.	23	Styrene OCP	10% = 12.3	10 – 20	●	●	●		●	●									
V-4312	Liquid shear stable styrene olefin copolymer, 5-10 SSI.	7	Styrene OCP	10% = 10.0	10 – 20	●	●			●	●									
V-4318	Liquid shear stable styrene olefin copolymer, 0-5 SSI.	3	Styrene OCP	10% = 8.9	10 – 20	●	●			●	●	●								
V-731	Liquid ethylene-propylene oligomer base stock. (15% KRL shear)	0	Polyolefin	10% = 12.1	5 – 10	●	●		●	●		●	●							
V-705	Low temperature polyolefin base stock for VHVI HF. (4% KRL shear)	0	Polyolefin	10% = 20.3	5 – 10	●	●		●	●		●	●							
V-515	Liquid bio VM for vegetable oil and PAO/ester blends. Best economics for chain and saw oils.	50	Biobased	10% = 12.0	5 – 10		●	●				●	●							
V-521	Liquid bio VM for vegetable oil, esters. Best low temp fluidity for low pour point hydraulics.	30	Biobased	10% = 16.4	5 – 10		●	●		●		●	●							
V-508M	Liquid bio VM for vegetable oil, esters. Best thermal stability for high temp esters. NSF HX-1.	28	Biobased	10% = 18.4	5 – 10		●	●		●		●	●							
MD-8004	Dispersant PMA viscosity modifier for tractor, ATF. MD-2200 for 3 SSI.	40	D-PMA	10% = 16.9	5 – 20	●	●			●	●	●								
MH-2000	PMA viscosity modifier for industrial hydraulic oils (35% KRL shear)	1	PMA	10% = 11.1	5 – 20	●	●		●	●	●	●								
MB-1010	PMA base stock for gear oils and full synthetic lubes (15% KRL shear)	0	PMA	10% = 8.6	5 – 20	●	●		●	●	●	●								

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 – 0.5		●															
V-4004A	Pre-dissolved liquid reactive polymer for fast and complete addition to grease.	Li	3 – 5		●															
V-4700	Liquid reactive polymer for improving synthetic-based greases with low solvency.	Li / Ca	1 – 5		●										●					
V-191	Concentrated polymer emulsion to improve water spray-off, oil bleed, and tack.	Clay / Silica	0.5 – 2		●									●	●					
V-4316	High SSI liquid styrene copolymer for water resistance, oil bleed, and tack in polyurea grease. V-4311 for low SSI.	Polyurea	5 – 10	●	●	●		●	●	●										

Specialty Packages & Additives		Application	Treat Level wt %																	
CI-426	Amine phosphate antiwear / corrosion inhibitor, NSF HX-1. AW-116 for lower hazard, higher phosphorus option.	Antiwear	0.5 – 2	●	●	●	●	●	●	●	●	●	●	●	●					
DM-240	Excellent demulsifier for petroleum oil lubricants. DM-400 for Ecolabel and NSF HX-1.	Demulsibility	0.1 – 1	●		●	●	●	●	●	●	●	●	●	●	●				
GA-614	Active sulfur and phosphorus GL-5 / US Steel / AGMA gear oil package. GA-400 for NSF H1. GA-533 for Ecolabel.	Gear	2 – 6	●	●	●	●	●	●											
HF-595	Ecolabel biobased HF package (2.2wt%). HF-580 for biodegradable industrial HF (1.5 - 2.5wt%).	Hydraulic	2.2	●		●	●	●	●											
PD-620	Pour point depressant for low visc. Group I/II. PD-610 for high visc. PD-630 for Gr. III oils. PD-585 for Ecolabel.	Low Temp.	0.1 – 1.0	●	●	●	●	●	●	●	●	●	●	●	●					
RD-350	Emulsifying EP rock drill, pneumatic oil, and air tool package for petroleum oils. RD-540 for vegetable oils.	Rock Drill	1.8	●	●	●	●	●												
SGP-567	Multipurpose forestry and saw guide oil package. SGP-563 for Ecolabel listed forestry oils.	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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