

Lubricant Oil	Greases	Bar & Chain	Gear Oil	Hydraulics	Engine Oil	Metalworking	Biobased	NSF HX-1	Ecolabel LuSC
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Tackifiers			Typical Viscosity cSt @ 100C	Treat Level wt %																
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	●	●	●	●												

Viscosity Modifiers (VM) & Base Stocks		Polymer Chemistry	Shear (SSI)	Thickening Eff. cSt @ 100C	Typ. Viscosity cSt @ 100C	Treat Level wt %														
V-158FN	Low cost liquid OCP viscosity modifier, naphthenic oil 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. NSF HX-1 available.	OCP	22	10% = 11.0	1,000	5 – 10	●	●	●											
V-731	Ethylene-propylene oligomer (EPO) base stock for gear. (12% KRL shear)	EPO	0	10% = 11.1	1,100	5 – 20	●	●		●	●	●	●	●	●					
V-705	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		●	●										●	●
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	●	●		●	●	●	●							
V-820	Water soluble powder to thicken water-based lubricants, emulsions.	Water	N/A	0.5% = ISO 100	Powder	0.1 – 2													●	●

Grease Additives			Recommended For:	Treat Level wt %																
V-207	Flake polymer for water resist., oil bleed, shear stability, and tack. V-211 or V-4064 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	Liquid styrene copolymer for improving the oil bleed and compatibility of polyurea thickeners. High SSI.		Polyurea	5 – 10	●	●	●												●	●

Specialty Packages & Additives			Application	Treat Level wt %																
WA-64	Modern low color/odor, dropout-free way oil technology. Stick-slip pass. WA-60SF for colorless sulfur-free way oils.		Way Oil	1.75	●		●	●	●	●										
GA-360M	Industrial gear package for US Steel and AGMA 9005 with micropitting additive. GA-360 for economy. GA-400 for NSF H1.		Gear	2 – 6	●	●	●	●	●	●										
RD-540CP	Demulsifying EP rock drill, air tool, pneumatic oil package for petroleum and biobased. RD-540 for emulsifying.		Rock Drill	2.4	●	●	●	●												
SGP-567	Multipurpose forestry and saw guide oil package. SGP-563 for Ecolabel.		Saw Guide	1.5	●		●													●
HF-595	Ecolabel biobased HF package (2.2wt%). HF-580 for biodegradable industrial HF (2.5wt%).		Hydraulic	2.2	●		●	●	●	●										●
CI-426	Amine phosphate corrosion inhibitor and anti-wear. NSF HX-1. AW-116 for improved wear. CI-426EP for improved EP.		MWF	0.5 – 2	●	●	●	●	●	●										
DM-240	Excellent demulsifier for petroleum oil lubricants. DM-400 for Ecolabel and NSF HX-1.		Demuls.	0.1 – 1	●						●	●	●	●	●	●				●
PD-585	Pour point depressant for vegetable oil; Ecolabel LuSC, US EPA Safer Choice.		Biobased	0.5 – 1		●	●	●	●	●										●
PD-571	Biobased cold flow improver for methyl ester/biodiesel. PD-570 as second source.		Biodiesel	0.5 – 1															●	●
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.		Petroleum	0.1 – 0.5	●	●	●	●	●	●										

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