

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 & 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-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-4318	Liquid styrene olefin copolymer viscosity modifier.	Styrene OCP	0 – 5	10% = 8.9	1,300	5 – 20	●	●												
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-307	Zinc-free industrial gear package with excellent supply, low corrosion, FZG 12+. GA-400 for NSF HX-1 gear/HF (1.1wt%).	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	●	●	●	●	●												

Purchasing Information

Headquarters

Functional Products Inc.

8282 Bavaria Road
Macedonia, OH 44056
Phone: 330-963-3060
Fax: 330-963-3322
sales@functionalproducts.com
www.functionalproducts.com

North America

USA - Midwest

Omya Specialty Materials (Hall)

St. Louis, MO
Phone: 314-725-2600
www.omya.com

USA - East Coast

Van Horn, Metz & Co.

Conshohocken, PA
Phone: 610-828-4500
marketing@vanhornmetz.com
www.vanhornmetz.com

USA - West Coast

Tri-Iso Tryline, LLC

Del Mar, CA
Phone: 909-626-4855
www.tri-iso.com

Canada

IMCD Canada Limited

Brampton, Ontario
Phone: 800-575-3382
www.imcdca.com

Mexico

Proaindsa

Mexico City DF, Mexico
Phone: 011-52-555-696-5551
jgarduno@proaindsa.com

Europe

France

Lumar France

Carrières sur Seine, France
Phone: +33 (0) 1 80 83 50 40
contact@lumarfrance.com
www.lumarfrance.com

Germany / Switzerland / Austria

Krahn Chemie Deutschland GmbH

Hamburg, Germany
Phone: +49 40 32092-0
info.de@krahn.eu

Italy

Lumar Italia Srl

Assago, Italy
informazioni@lumaritalia.com
www.lumaritalia.com

Poland / Hungary / Baltics / Czech Rep. / Slovakia / Ukraine

Krahn UK Limited

Cheshire, UK
Phone: +44 (0)1270 759128
uk.sales@krahn.eu

Scandinavia / Iceland

Krahn Nordics

Hisings Backa, Sweden
Phone: +46 31 775 67 80
anders.malmstroem@krahn.eu
www.krahnnordics.com

Spain / Portugal / Turkey / Greece

Lumar Quimica, S.L.U.

Barcelona, Spain
lumar@lumarquimica.com
www.lumarquimica.com

United Kingdom

Lumar UK

London, England
Phone: 0203 318 5697

Asia

China

Greenbase Industries, Inc.

Shanghai
Phone: 86-186-2158-0862

Smart Oil & Chemical Limited

Hong Kong
www.smart-oil.com

India / Bangladesh

Environ Specialty Chemicals Pvt. Ltd.

Mumbai, India
Phone: +91-22-42489200/230
sales@environchem.com
www.envirochem.com

Japan

Nippon Chemical Sales Co., Ltd.

Tokyo, Japan
Phone: 03-3719-0366
terui@ncstokyo.co.jp
info@ncstokyo.co.jp

Korea

Inwoo Corp.

Gyeonggi-do, Republic of Korea
Phone: 82-2-2202-7028
inwoo@inwoocorp.co.kr
www.inwoocorp.co.kr

Southeast Asia

Eweka International Pte. Ltd.

Singapore
Phone: 65-6348-7279
rianto@ewekainternational.com.sg
www.ewekainternational.com.sg

Taiwan, ROC

Shiony Chemical Co. Ltd.

Taipei
Phone: 886-2-2356-0258
shiony@ms31.hinet.net
shiony.taipei@msa.hinet.net
www.shiony.com

Australia

Australia

IMCD Australia Limited

Mulgrave, Australia
Phone: 61-3-8544-3100
cs@imcd.com.au
www.imcdgroup.com

Central / South America

Central / South America

DNL Chemical

Phone: 800-726-0311
ToddC@DNLChemical.com
www.DNLChemical.com

Middle East

United Arab Emirates

Environ Specialty

Chemicals Gulf FZE

Ras Al Khaimah, UAE
Phone: +971 52548 5751
ravi@environchemfze.com