
BRB
A Subsidiary of PETRONAS Chemicals Group
Viscotech®
Viscosity Modifiers
Flowing your way

Contents

Going full circle

The Viscotech® line-up

From olefin copolymers (OCP) to styrene-based viscosity modifiers, our products deliver the performance profile your formulation needs for smooth operation over a wide range of temperatures. In line with our innovation strategy of not only addressing the challenges our customers face, but also anticipating their future needs, BRB Lube Oil Additives & Chemicals never stands still. We continue to develop the Viscotech® line-up to meet the growing need for resource efficiency.

So it comes as no surprise that we now deliver verifiable circular economy properties in the Viscotech® upcycled product line. The re-refined viscosity modifiers shrink carbon emissions and contribute to a future-proof industrial value chain.

The Viscotech® range is designed to optimise both shear stability and thickening efficiency in balance to deliver the best properties in each specific application. By balancing shear stability index (SSI) and thickening efficiency (TE), our solutions enable treat rate optimisation that improves engine performance, durability and fuel economy. A family of advanced non-dispersant OCP VMs, the Viscotech® 6-series is designed for multi-grade engine oils and industrial lubricants. The Viscotech® styrene-based 4- and 5-series VMs are suitable for top-tier multi-grade oils. The Viscotech® products can deliver in solid and liquid form.

Viscotech® upcycled

The Viscotech® upcycled product line is an industry first in low-carbon viscosity modifiers. By combining high-quality, re-refined base oils with our Viscotech® viscosity modifiers, we deliver innovative formulations that meet stringent performance standards while supporting circular economy principles. They are then ready for reintroduction into the value chain – as high-value products. The result: low-carbon viscosity modifiers that deliver excellent performance. Many industries are talking about the circular economy. We're doing it.

Reduced CO_2 footprint*

~ 60 % reduction	Viscotech® with RRBO instead of VBO

CO_2 reduction (weight), final product

~ 0.2 kg CO_2 reduction per 1.0 kg	Using Viscotech® with RRBO instead of VBO in final formulation

*Note:
- The PCF values are based on production data at a specific production site. Raw materials are allocated on product level and energy on site level.
- All PCF values are based on production data from 2024 and are calculated based on GHG protocol methodology, Together for Sustainability v. 2.1 and ISCC.
- All PCF values are valid for the products in the delivered form (e.g. including water if the product is a water solution).

Viscotech® 6073LR

OCP viscosity modifier dissolved in re-refined base oil

New: Viscotech® upcycled

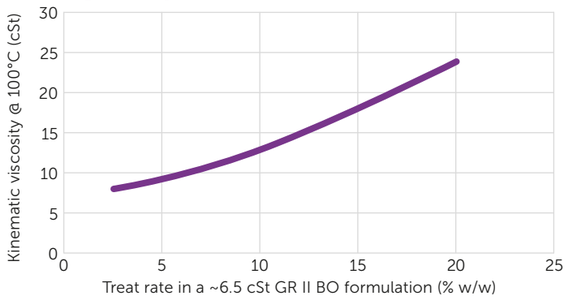
Shear-stable performance for high-load chain oils

The liquid viscosity modifier Viscotech® 6073LR, with a shear stability index (SSI) of 70, is suitable for use in oils that prevent severe wear and can withstand high loads in moving chains across specific industrial segments. The products address environmental sustainability trends, while offering cost-effectiveness and outstanding performance. Viscotech® 6073LR demonstrates excellent compatibility with Petrolad® 484FT, allowing for an easily achievable additive combination.

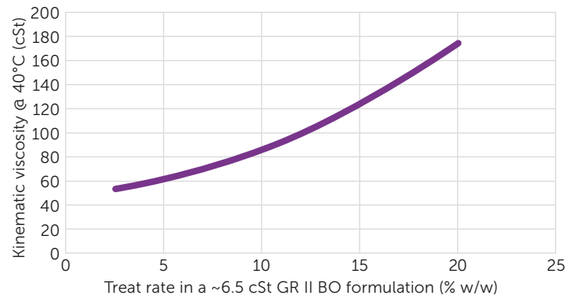
Benefits:

- A contribution to environmental sustainability through circular economy
- Performance equivalent to traditionally dissolved OCP viscosity modifiers
- Economical treat rate

Thickening efficiency of Viscotech® 6073LR



Thickening efficiency of Viscotech® 6073LR



Viscotech® 6540LR 1300 cSt

Low-carbon, premium OCP viscosity modifier

New: Viscotech® upcycled

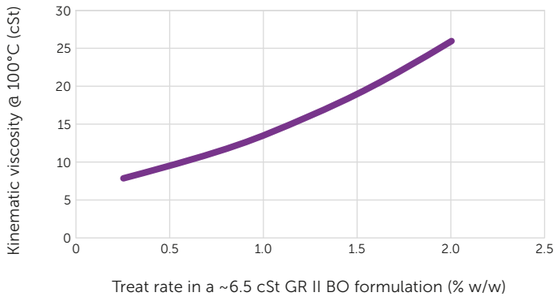
Shear stability meets circularity

As a shear-stable (22 SSI) amorphous olefin copolymer (OCP) viscosity index improver with circular economy credentials, Viscotech® 6540LR cSt can verifiably reduce your carbon footprint. The innovative product is dissolved in an API GR I+ high-quality re-refined base oil (RRBO), and is recommended for formulating multi-grade crankcase and industrial lubricants. It can also be used in combination with our Petrolad® additive technology.

Benefits:

- Future-proof solution with environmentally friendly properties
- Performance equivalent to its virgin BO-dissolved OCP counterpart
- Suitable for mid-/top-tier engine oils, including those targeting 5W-30 (API SP) and 10W-40 (API CI-4) levels
- Outstanding high-temperature, high-shear (HTHS) results in light- and heavy-duty vehicle applications
- Excellent low-temperature properties, also exhibited in formulations with high-paraffin base oils

Thickening efficiency (TE) performance of Viscotech® 6540LR 1300 cSt



Our Viscotech® OCP VMs are available from 500 cSt to 1600 cSt, and we can adjust to custom viscosities within this range, according to customers' requests. In addition, all liquid Viscotech® VMs are available in bulk, drums and IBCs.

Viscotech® 6640LR 1200

Premium OCP viscosity modifier for lower carbon emissions

New: Viscotech® upcycled

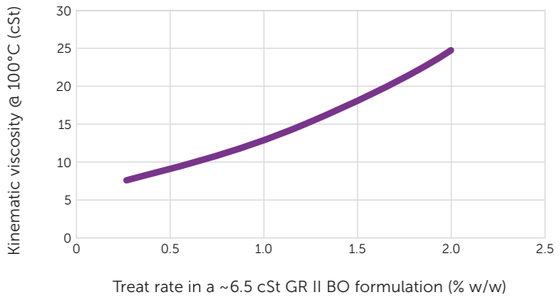
Environmental friendliness, performance and innovation

A shear-stable (25 SSI) amorphous olefin copolymer (OCP) viscosity modifier, Viscotech® 6640LR cSt lets you enhance your environmental compatibility. The innovative product is dissolved in an API GR I+ re-refined base oil (RRBO). It is suitable for formulating multi-grade crankcase and industrial lubricants, and can be used in combination with our Petrolad® additive technology.

Benefits:

- Forward-looking solution with environmentally friendly properties
- Equivalent to virgin BO-dissolved OCP counterpart in performance
- Suitable for mid-/top-tier engine oils, including those targeting 5W-30 (API SP) and 10W-40 (API CI-4) levels
- Outstanding high-temperature, high-shear (HTHS) results in light- and heavy-duty vehicle applications
- Excellent low-temperature properties, also exhibited in formulations with high-paraffin base oils

Thickening efficiency (TE) performance of Viscotech® 6640LR



Our Viscotech® OCP VMs are available from 500 cSt to 1600 cSt, and we can adjust to custom viscosities within this range, according to customers' requests. In addition, all liquid Viscotech® VMs are available in bulk, drums and IBCs.

Viscotech® 6540L

Versatile OCP modifier

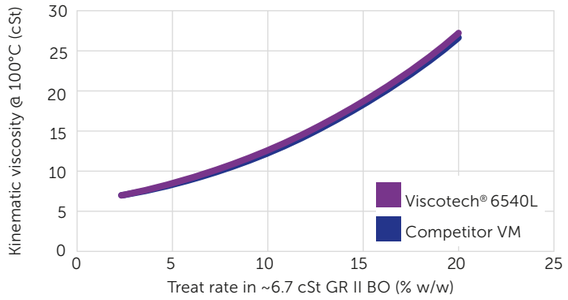
Cost-effectiveness across applications

The advanced non-dispersant OCP viscosity modifiers in the Viscotech® 6-series include a solid variant (6540) and liquid options (6540L) dissolved in GR II virgin base oil. They are designed for use in multi-grade engine oils and industrial lubricants. The versatile additives deliver excellent low-temperature results and can be used with selected pour point depressants (PPDs), such as Petrolad® 7072, in a package solution. In addition, they can be customised to achieve various viscosities that are in high demand. The 6540L variant is also suitable for use in stop-smoke applications, at a low viscosity grade.

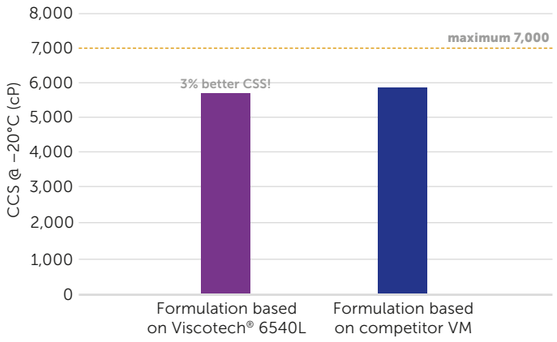
Benefits:

- Excellent low-temperature properties, e.g. in combination with high-paraffin base oils
- Cost-effectiveness thanks to a favourable treat rate and suitability for multiple applications
- Liquid and solid variants show outstanding compatibility with GR I, II and III base stocks

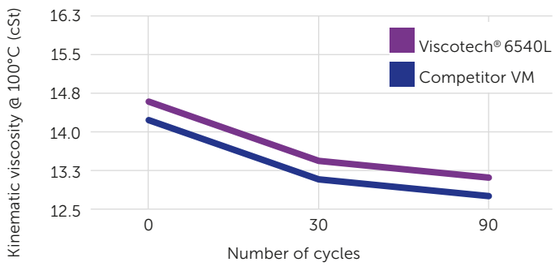
Thickening efficiency of Viscotech® 6540L



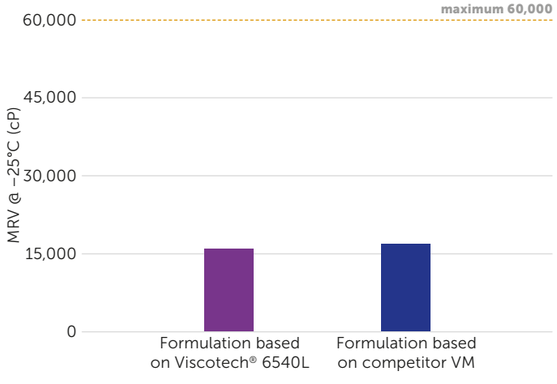
CCS SAE 15W40, SL/CF



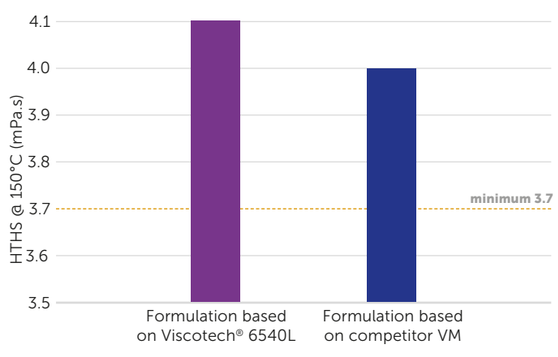
Shear stability performance after 30 and 90 cycles, SAE 15W40, 12.5–16.3 cSt, ASTM D7109



MRV SAE 15W40, SL/CF



HTHS SAE 15W40, SL/CF



Viscotech® 6640L

Multi-use OCP viscosity modifier

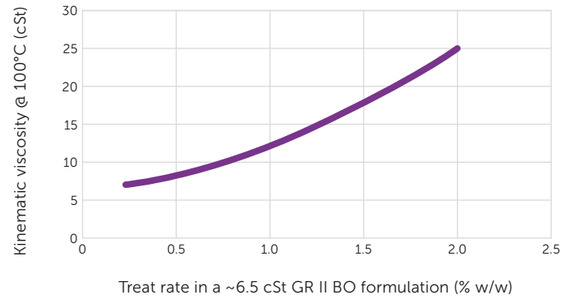
Versatility and cost-effectiveness

Viscotech® 6640L is a shear-stable (25 SSI) amorphous olefin copolymer (OCP) viscosity index improver, dissolved in an API GR II paraffinic base stock. It can be utilised in various multi-grade crankcase and industrial lubricants, while exhibiting particularly strong performance in mineral PCMO and HDDO blends. Viscotech® 6640L can also be used in combination with our Petrolad® additive technology. Available in fluid or solid form.

Benefits:

- Excellent low-temperature properties in finished fluids (CCS, MRV)
- Cost-effective due to its competitive treat rate and multi-application approach (one source for both)
- For more information, please request the Viscotech® 6640L Technical Report, dedicated to testing SAE 10W-40 (API CI-4) and SAE 5W-30 (API SP) fluids

Thickening efficiency (TE) performance



Our Viscotech® OCP VMs are available from 500 cSt to 1600 cSt, and we can adjust to custom viscosities within this range, according to customers' requests. In addition, all liquid Viscotech® VMs are available in bulk, drums and IBCs.

Viscotech® 494L

Premium styrenic viscosity modifier

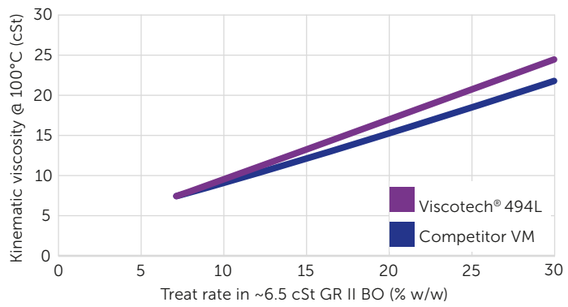
High performance in engine oils

A liquid styrenic solution that offers excellent shear stability (7 SSI) and is dissolved in GR III base oil. Viscotech® 494L is a premium product designed for formulations like top-tier, multi-grade oils to meet the demands of today's top-quality diesel and gasoline engine oils. A proven solution used by many of the largest lubricant manufacturers worldwide, it offers long-term stability coupled with broad thermal coverage.

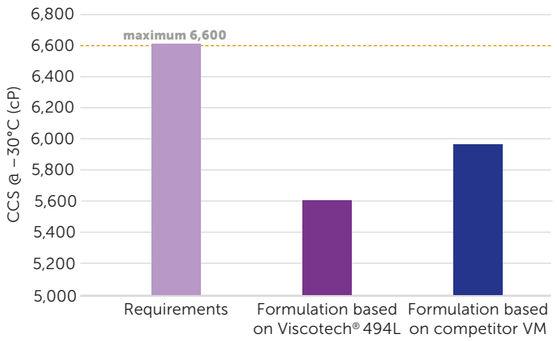
Benefits:

- Excellent SSI for long-term lubricant durability in multi-grade systems
- Outstanding thickening efficiency (TE)
- Enhanced performance at low and high temperatures throughout its service life
- Trusted by major oil blenders

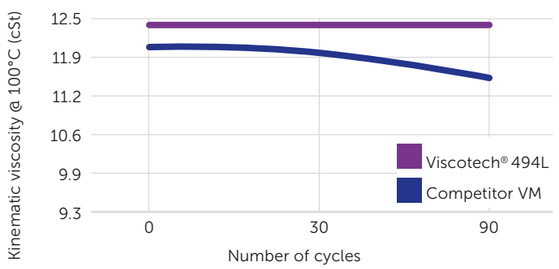
Thickening efficiency of Viscotech® 494L



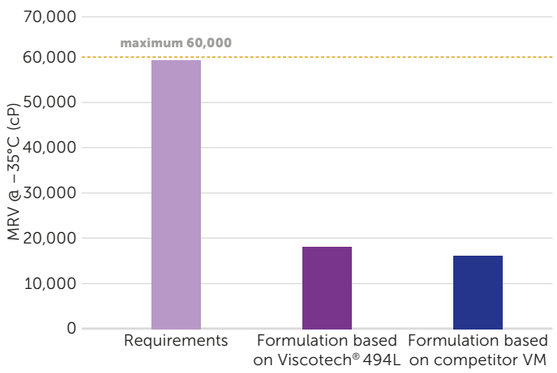
CCS SAE 5W30, SM/CF



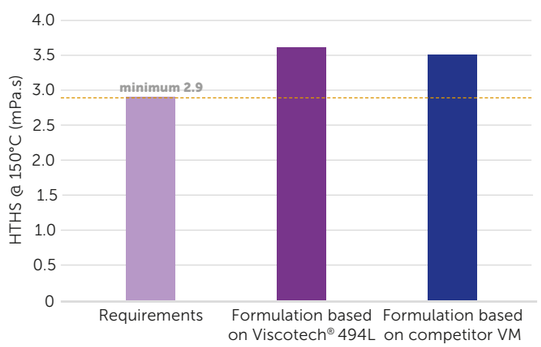
Shear stability performance after 30 and 90 cycles, SAE 5W40, 9.3–12.5 cSt, ASTM D7109



MRV SAE 5W30, SM/CF



HTHS SAE 5W30, SM/CF



Viscotech® 593L 1300 cSt

Premium, shear-stable styrenic viscosity modifier

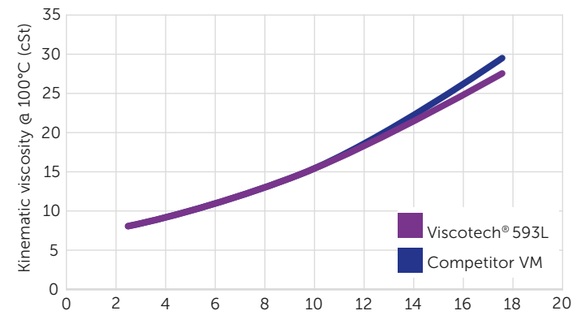
Long-term high performance

This high-quality solution is designed for formulation of top-tier, multi-grade diesel or gasoline engine oils. The very shear-stable, styrenic viscosity modifier (8 SSI) is dissolved in a GR II base oil. It is suitable for the requirements of today's passenger and commercial vehicles.

Benefits:

- Strong wear protection thanks to excellent shear stability
- Great thickening efficiency (TE)
- Enhanced low-temperature operation
- Optimum high-temperature performance and lifespan

Thickening efficiency of Viscotech® 593L 1300 cSt



Viscotech® 533L

Multi-purpose liquid styrenic viscosity modifier

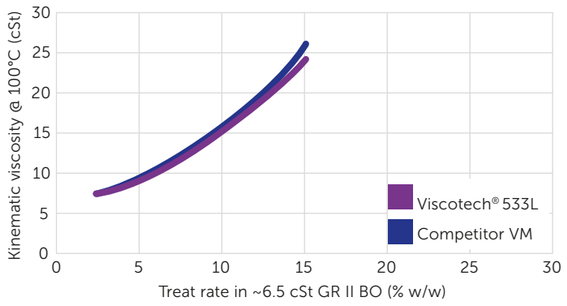
Future-oriented liquid solutions

The liquid VM possesses high shear stability (3 SSI) thanks to its special solid star-shaped styrenic polymer. Viscotech® 533L 1600 cSt dissolves well in GR II base oils. It delivers outstanding performance in multi-grade formulations and meets the exacting specifications and performance demands of today's diesel and gasoline engine oils. The star-shaped architecture enables exceptional versatility: in addition to automotive applications, it's a good alternative to PMA solutions in certain viscosity grades of hydraulic fluids.

Benefits:

- Supports clean and fuel-efficient operation of diesel and gasoline engines
- Lasting excellent SSI in automotive and hydraulic systems
- Superior filterability and lower degradation for an extended service life
- Broad thermal coverage

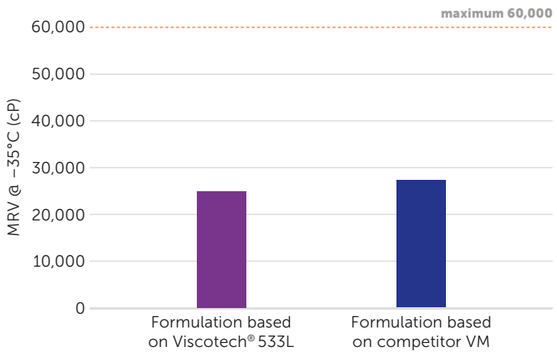
Thickening efficiency of Viscotech® 533L



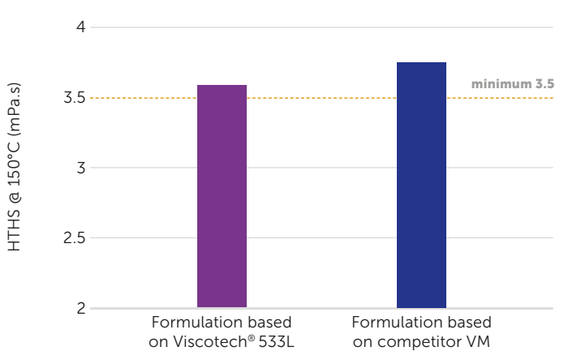
CCS SAE 5W40, SM/CF

Shear stability performance after 30 and 90 cycles, SAE 5W40, 12.5–16.3 cSt, ASTM D7109

MRV SAE 5W40, SM/CF



HTHS SAE 5W40, SM/CF



Viscotech® 535L

Versatile liquid styrenic viscosity modifier

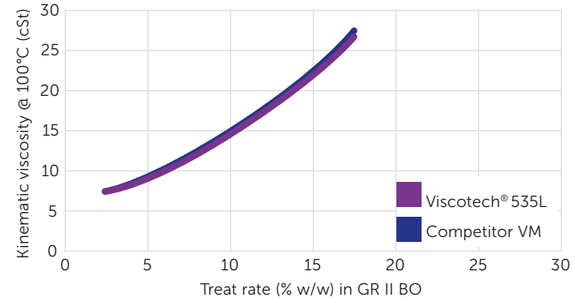
Forward-looking liquid solutions

Like Viscotech® 533L, the liquid VM possesses high shear stability (3 SSI) thanks to its special solid star-shaped styrenic polymer. Viscotech® 535L is readily soluble in GR III base oils and is also suitable for next-generation engine lubes – for example, in low-viscosity grades like 0W-XX. It offers outstanding performance in multi-grade formulations and meets the demanding specifications and performance demands of today's diesel and gasoline engine oils. The star-shaped architecture enables exceptional versatility: in addition to automotive applications, the additive is a good alternative to PMA solutions in certain viscosity grades of hydraulic fluids.

Benefits:

- Supports clean and fuel-efficient operation of diesel and gasoline engines
- Lasting excellent SSI in automotive and hydraulic systems
- Superior filterability and lower degradation for an extended service life
- Broad thermal coverage
- 535L meets the stringent demands of ever-lower viscosity grades – 5W-XX and even 0W-XX

Thickening efficiency of Viscotech® 535L



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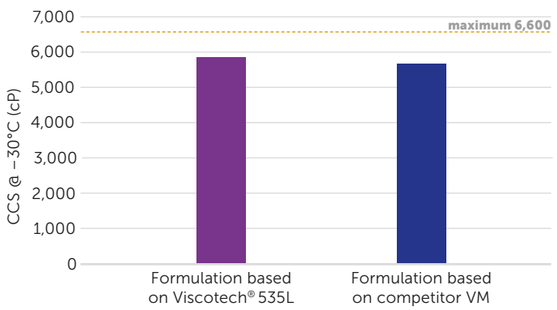
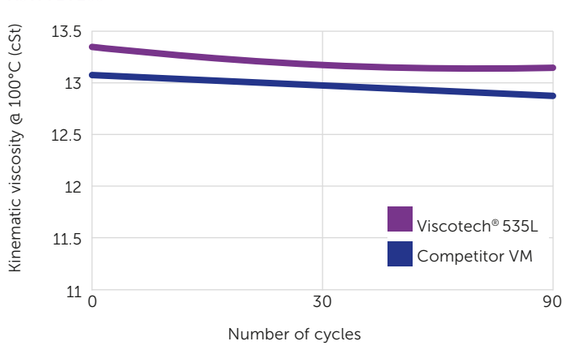
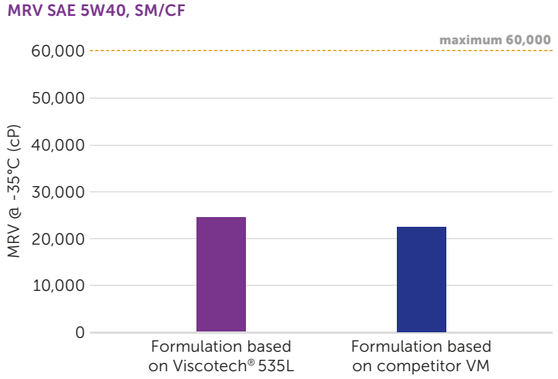


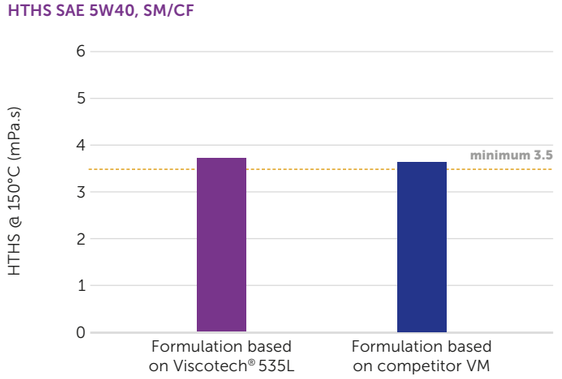
Shear stability performance after 30 and 90 cycles, SAE 5W40, ASTM D7109



MRV SAE 5W40, SM/CF



HTHS SAE 5W40, SM/CF



Viscotech® 431L

Liquid viscosity modifier for high-quality gear oils

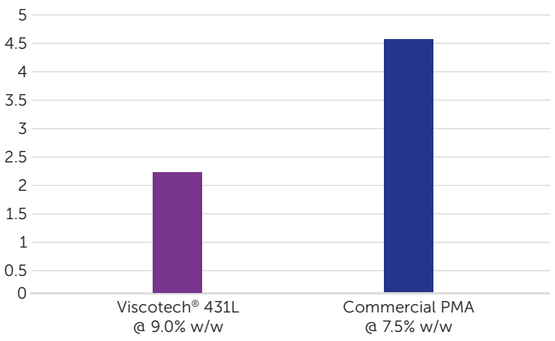
Engineered for endurance, trusted in gear oils

A liquid viscosity modifier with high shear stability, developed for high-quality gear oils. It delivers good results in (semi-)s synthetic grades like SAE 75W-80, allowing versatile blenders to surpass the specific requirements of driveline applications, while future-proofing their operations.

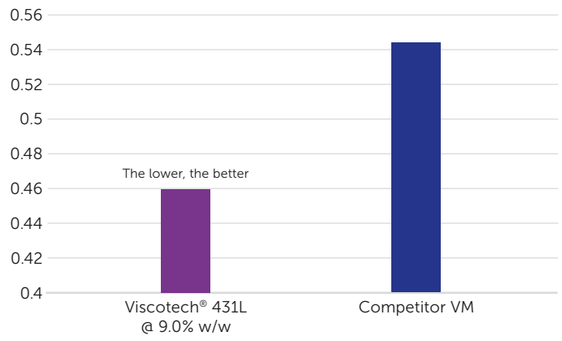
Benefits:

- Strong shear stability after 20 hrs per KRL, expressed through reduced permanent viscosity loss
- Significant low-temperature viscosity contribution to the finished lubricant
- Compatibility with Petrolad® 339 in gear oil formulations

Permanent viscosity loss (%) in API GR II/III, 75W80 gear oil, KV @ 100°C, KRL @ 20 hrs (DIN 51350-6)



Wear scar diameter (mm) ASTM D2266 MOD



Viscotech® 451L

Dedicated liquid viscosity modifier for hydraulic oils

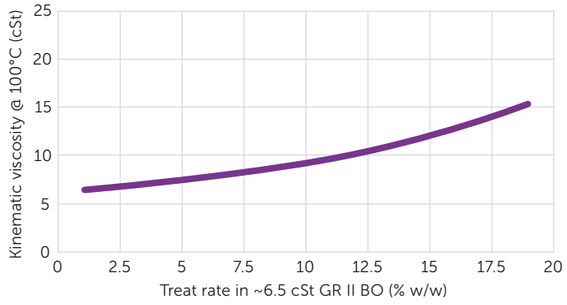
Stable under pressure, designed for hydraulic oils

A shear-stable liquid viscosity modifier, developed for creating high-quality, mainstream hydraulic oils. It exhibits particularly strong results in API GR III, ISO VG 46 blends. When mixed with suitable additives and base stocks, Viscotech® 451L helps the resulting formulation to pass the demanding KRL tapered roller bearing test, as well as to reach other targets preferred by many blenders, e.g. a higher VI.

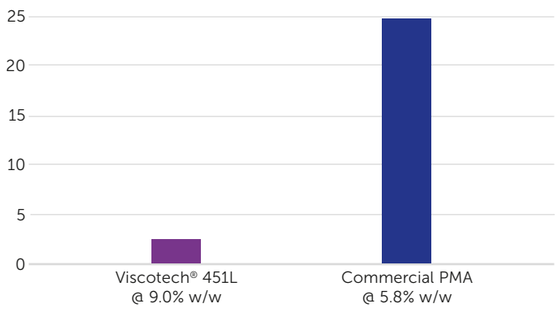
Benefits:

- Excellent shear stability after 20 hrs (per KRL) and 250 cycles (per the widespread fuel injection pump test)
- Optimum contribution to high-temperature viscosity in hydraulic oils operating under severe conditions
- Significant cost savings and efficiency gains vs PMAs in selected hydraulic oil grades

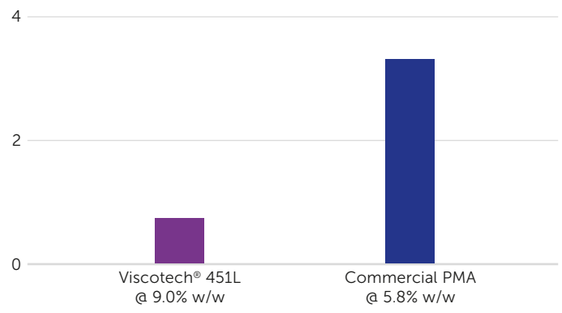
Thickening efficiency of Viscotech® 451L



Permanent viscosity loss (%) in API GR III, ISO VG 46 hydraulic oil, KV @ 100°C, KRL @ 20 hrs (DIN 51350-6)



Permanent viscosity loss (%) in API GR III, ISO VG 46 hydraulic oil, KV @ 40°C, 250 cycles (CEC L-14-A-93)



Product overview [1]

Viscotech®

	Type	Base oil group	Product	KV100 (cSt)	SSI	Applications
Olefin copolymer (OCP) types	Solid		Viscotech® 6540	–	22	Automotive
			Viscotech® 6640	–	25	Automotive
			Viscotech® 6545	–	35	Automotive
			Viscotech® 6550	–	52	Grease
			Viscotech® 6073	–	70	Chain oils
	Liquid in GR II virgin base oils		Viscotech® 6540L	1000, 1300	22	Automotive
			Viscotech® 6540LP	1000, 1100, 1300	22	Automotive
			Viscotech® 6545L	1200	25	Automotive
	Liquid in GR I re-refined base oils		Viscotech® 6540LR	1300	22	Automotive
			Viscotech® 6640LR	1200	25	Automotive
			Viscotech® 6073LR	1200	70	Chain oils
Styrenic types	Solid		Viscotech® 483	–	10	Grease
			Viscotech® 593	–	8	Grease, Automotive
	Liquid in virgin base oils	II	Viscotech® 483L	8.0[2]	10	Grease, Automotive
		III	Viscotech® 494L	9.0[2]	7	Automotive
		III	Viscotech® 494LD	8.5[2]	7	Automotive
		II	Viscotech® 593L	1300	8	Grease, Automotive
		III	Viscotech® 595L	1200	8	Automotive
		II	Viscotech® 533L	1400, 1600	3	Automotive, Hydraulic
		III	Viscotech® 535L	1200	3	Automotive, Hydraulic
		IV	Viscotech® 536L	1300	3	Automotive
New technology	Liquid in virgin base oils	II	Viscotech® 451L	9.0[2]	7	Hydraulic
		III	Viscotech® 431L	8.0[2]	10	Gears

1 Please note that this is an excerpt only. To find out more, visit our website www.brb-international.com/lac
2 At 10% dilution in a GR II BO

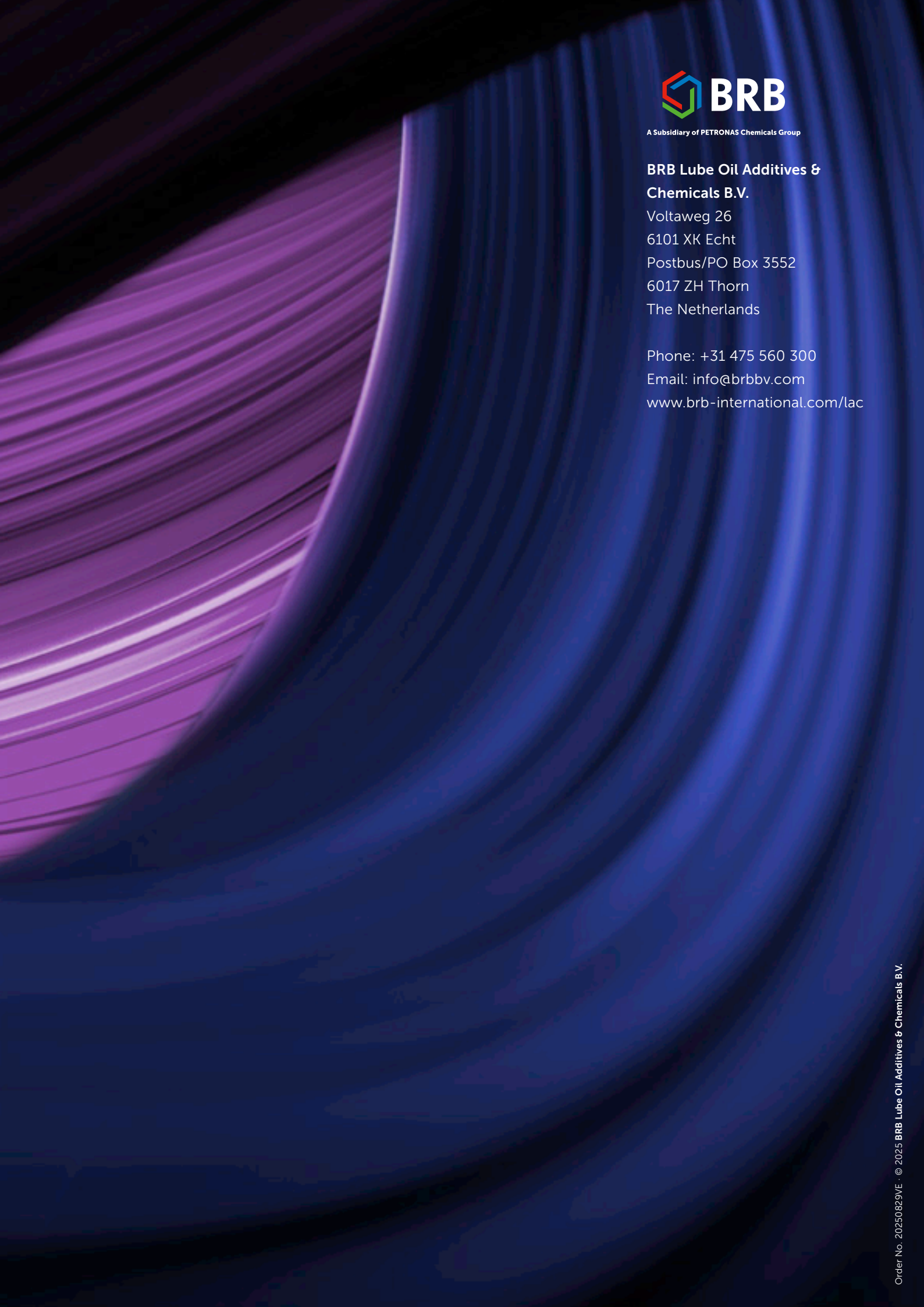
Petrolad®

Engine oil additives	
Passenger car motor oils (PCMO) and heavy-duty diesel oils (HDDO)	Petrolad® 8770
	Petrolad® 8771SC
	Petrolad® 8830
Passenger car motor oils (PCMO)	Petrolad® 9200
	Petrolad® 9330
	Petrolad® 9430
Driveline additives	
Gear oil	Petrolad® 336
	Petrolad® 336EP
	Petrolad® 339
	Petrolad® 133LS
Automatic transmission fluids (ATF)	Petrolad® 750
	Petrolad® 751
Off-road	
Universal tractor transmission oil (UTTO)	Petrolad® 5101
Super tractor universal (STOU)	Petrolad® 5201

Hydraulic additives	
Ashless	Petrolad® 1846
Zinc-containing	Petrolad® 9530
	Petrolad® 9533
Sulphonates	
Overbased calcium sulphonate detergent	Petrolad® 6779(A)
Coolants	
	Petrolad® 3550
	BRB Long-life coolant
Tackifier additives	
	Petrolad® 484FT
	Petrolad® 485FT

Abbreviations

BO = base oil
CCS = cold-cranking simulator
HTHS = high-temperature, high-shear
KV = kinematic viscosity
MRV = mini-rotary viscometer
PPD = pour point depressant
RR = re-refined
SSI = shear stability index
TE = thickening efficiency
TR = treat rate (referring to additive dosages)
VG = viscosity grade
VI = viscosity index
VIRG = virgin



A Subsidiary of PETRONAS Chemicals Group

BRB Lube Oil Additives & Chemicals B.V.
Voltaweg 26
6101 XK Echt
Postbus/PO Box 3552
6017 ZH Thorn
The Netherlands

Phone: +31 475 560 300
Email: info@brbbv.com
www.brb-international.com/lac