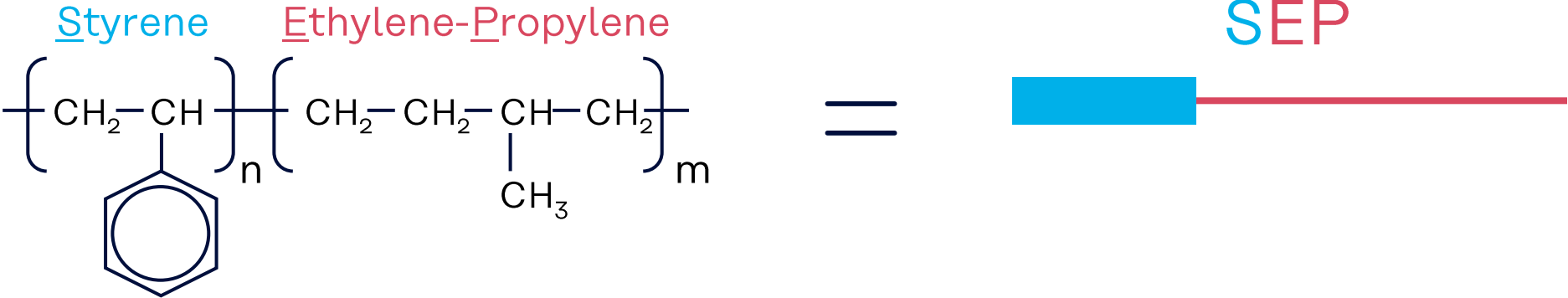


# Introduction of SEPTON™ 1020 (SEP for Thixotropic Gel)

Elastomer R&D Dept.  
Elastomer Division

***kuraray*** **Septon™**

# SEP: Styrene-(Ethylene-Propylene) Diblock Copolymer



Typical properties of SEPTON™ 1020

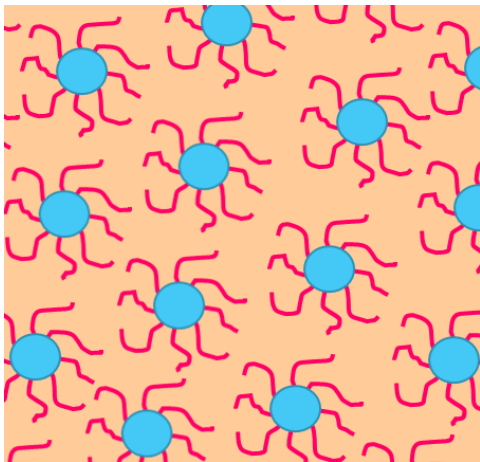
Styrene content (wt%)	36
MFR / 200 deg. C, 10 kg (g/10 min)	1.8
Hardness (Type A)	70
Solution Viscosity, 30 deg. C, 10 wt% in toluene	42

# Thixotropic Gel using SEP

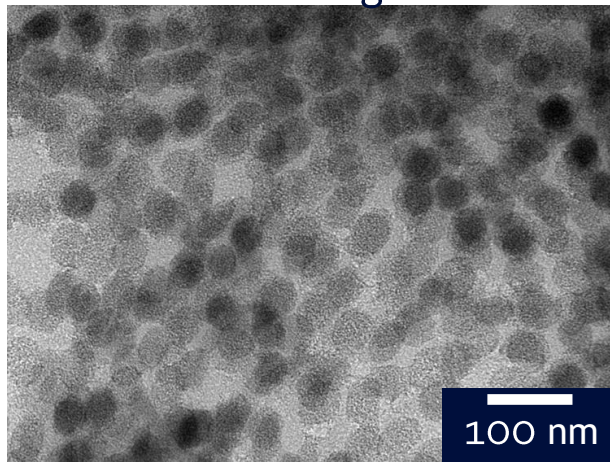
Styrene-segment Low affinity to oil



forms into micelle in oil solution



TEM Image



SEPTON™ 1020/Oil (10/90 by wt)

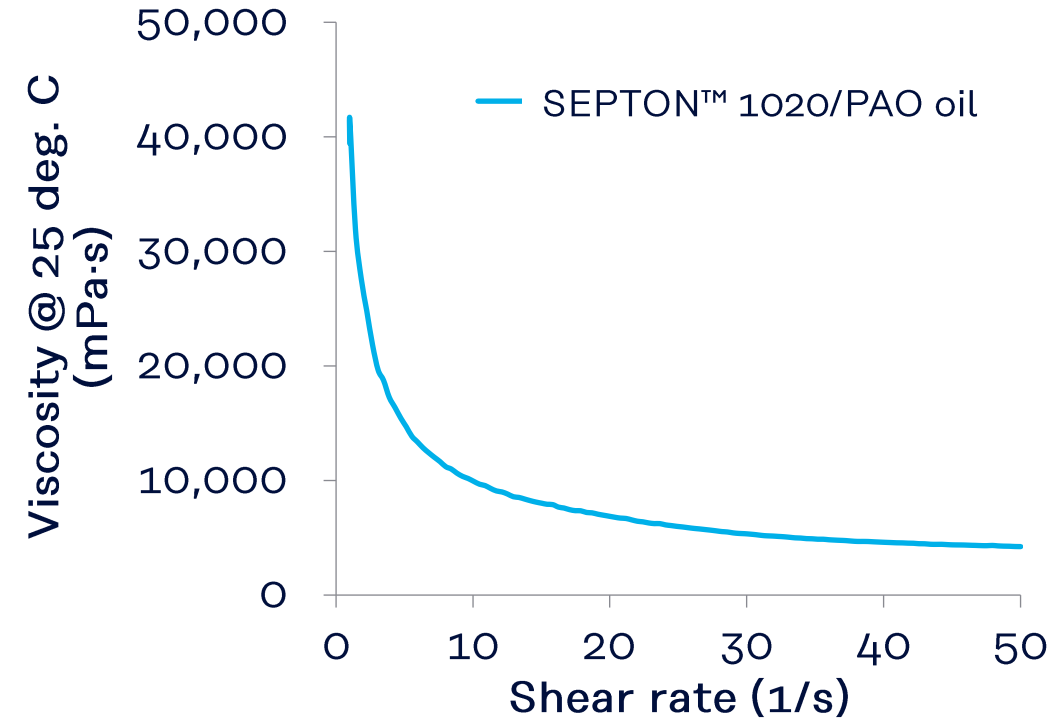
## Advantages of SEP-oil gel formulations

- **Thixotropy**  
Low viscosity for easy processing & high viscosity as gel product
- **High dropping point**  
Maintains a semisolid form at high temperatures
- **Good oil holding property**  
Little oil migration at high temperatures

SEP-oil gel formulations are used in various applications such as cable filling, grease, etc.

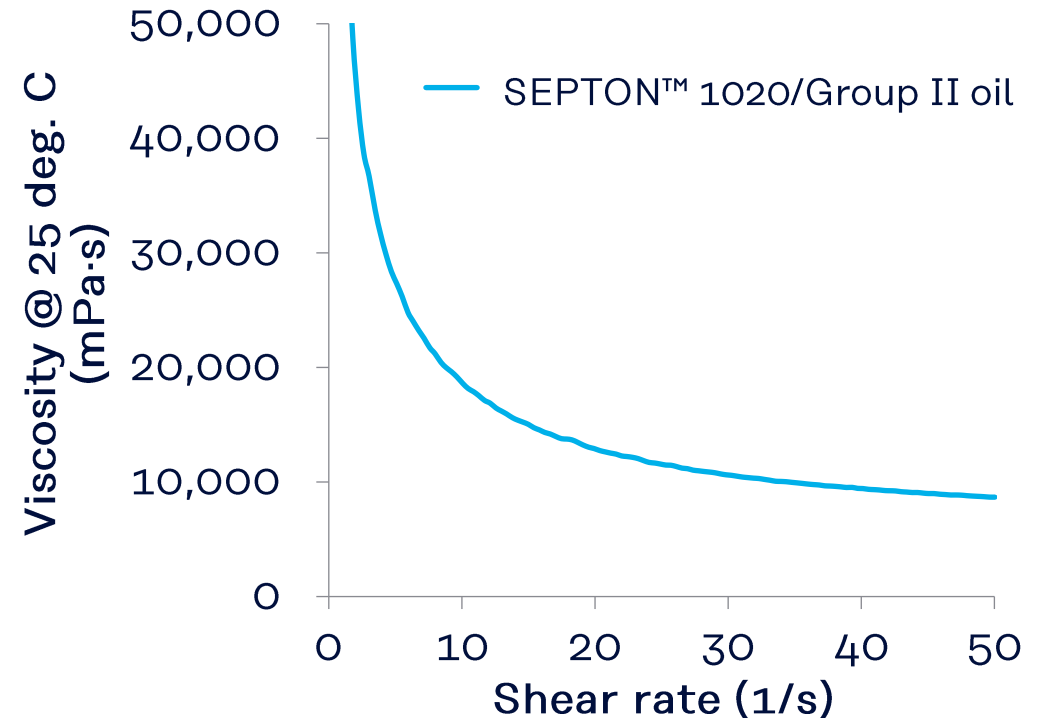
# Gel Properties in Poly- $\alpha$ -olefin (PAO) Oil (10 wt%)

10 wt% in PAO oil (31 cSt @ 40 deg. C)	SEPTON™ 1020
Gel viscosity (mPa·s) @ 25 deg. C, 50 s <sup>-1</sup>	4,000
Penetration (JIS K 2220)	363
Dropping point (deg. C) (JIS K 2220)	205
Oil separation degree (wt%) @ 80 deg. C, 24 h	0.4
Appearance	Clear



# Gel Properties in Group II Mineral Oil (9.1 wt%)

9.1 wt% in Group II oil (32 cSt @ 40 deg. C )	SEPTON™ 1020
Gel viscosity (mPa·s) @ 25 deg. C, 50 s <sup>-1</sup>	9,200
Penetration (JIS K 2220)	402
Dropping point (deg. C) (JIS K 2220)	193
Oil separation degree (wt%) @ 80 deg. C, 24 h	0.3
Appearance	Clear



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