Siluron®

Ultrapurified silicone oils for intraocular use

Geuder®
Precision made in Germany

FLUORON®
Leading in purity and variety

Siluron® 2000 | Siluron® XTRA

The innovative silicone oils with the special molecular design

Innovative molecular design for a new generation of silicone oils

Due to their special molecular structure, the Siluron® Xtra and Siluron® 2000 have, compared to the standard silicone oils, in vitro a high emulsification resistance. Both innovative silicone oils consist of a mixture of ultra-long molecular chains having a viscosity in the range of 2,500,000 mPas and of short molecular chains with a viscosity in the range of 1,000 mPas.

Thanks to this special molecular design, Siluron® Xtra and Siluron® 2000 can modify their viscous properties depending on the permanent high shear forces, such as they appear in the eye due to its constant movement: the greater the applied shear force is, the more viscous behaves the silicone oil, i.e. the more resistant it is to emulsification. By contrast, the viscosity of the conventional oils decreases continuously as a result of permanently acting external forces, which causes a higher tendency for emulsification.

The new generation of silicone oils – Siluron® 2000 and Siluron® Xtra – is characterized by its special property of a significantly higher emulsification resistance. This is based on an intelligent mixture of different long chains of molecules and the resulting dynamic viscosity. The good injectability in cases of small incisions is a further advantage of innovative silicone oils.

Literature: Chan YK., Ng CO., Knox PC., Garvey MJ., Williams RL., Wong D.:
Emulsification of silicone oil and eye movements; Invest Ophthalmol Vis Sci. 2011; 52: 9721-9727

Siluron® 2000

Syringe G-80740 Siluron® 2000 10 ml, sterile

Siluron® XTRA

Syringe G-80750 Siluron® Xtra 10 ml, sterile

High resistance to emulsification

Short injection time

Exceptional long-term tolerance

Excellent chemical purity

23 + 25 Gauge incisions support

The premium silicone oil with the customized extensional viscosity

The premium silicone oil with the Xtra portion elasticity

Siluron® 1000 | Siluron® 5000

The proven standard silicone oil tamponades

Standard silicone oils also available as vial

Siluron® 1000

Vial G-80710 Siluron® 1000 10 ml, sterile

Syringe G-80720 Siluron® 1000 10 ml, sterile

Siluron® 5000

Vial G-80810 Siluron® 5000 10 ml, sterile

Syringe G-80820 Siluron® 5000 10 ml, sterile

Exceptional long-term tolerance

Excellent chemical purity

The proven standard silicone oil tamponade

The proven standard silicone oil long-term tamponade

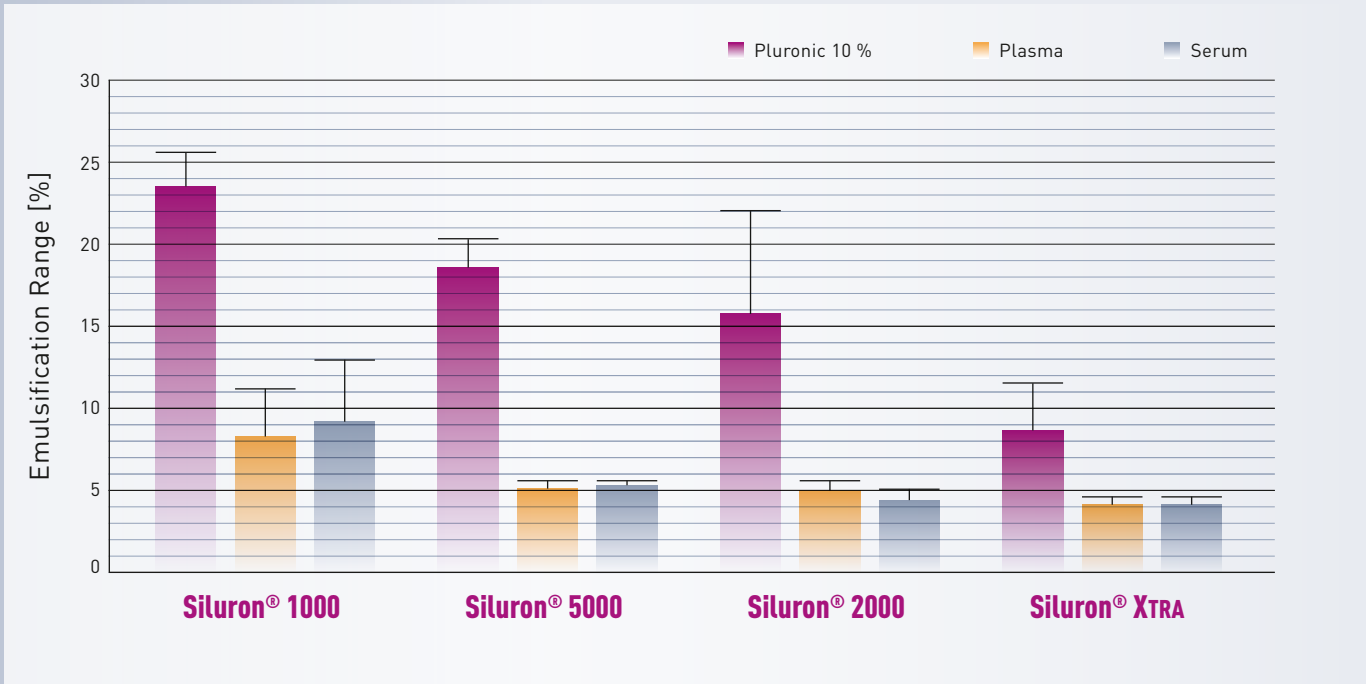
Overview of Properties

Physicochemical properties of Siluron® oils

Property	Siluron® 1000	Siluron® 5000	Siluron® 2000	Siluron® Xtra
Density [g/cm³] 25 °C	0.97	0.97	0.97	0.97
Viscosity [mPas] 25 °C	900 - 1200	4800 - 5500	2000 - 2400	4100 - 4800
Refractive index	1.404	1.404	1.404	1.404
Solubility in water	non miscible	non miscible	non miscible	non miscible
Composition [w %]	100 % Poly-dimethylsiloxan (PDMS)	100 % Poly-dimethylsiloxan (PDMS)	95 % Siluron® 1000 + 5 % PDMS (2.5 Mio. mPas)	90 % Siluron® 1000 + 10 % PDMS (2.5 Mio. mPas)
Elasticity (Je^0) [Pas]	2×10^{-5}	1×10^{-5}	6.5×10^{-4}	1.4×10^{-3}
Shear viscosity (at 8,37 s^{-1}, 37 °C) [mPas]	931	4303	1800	4377
Volatile components (200 °C, 24 h) [%]	⩽ 0.2 %	⩽ 0.2 %	⩽ 0.2 %	⩽ 0.2 %

Source: Caramoy A., Hagedorn N., Fauser S., Kugler W., Gross T., Kirchhof B.:
Development of emulsification-resistant silicone oils: can we go beyond 2000 mPas silicone oil? Invest Ophthalmol Vis Sci. 2011; 52: 5432-5436

Comparison of emulsification rate



Source: Caramoy A., Hagedorn N., Fauser S., Kugler W., Gross T., Kirchhof B.: Development of emulsification-resistant silicone oils:
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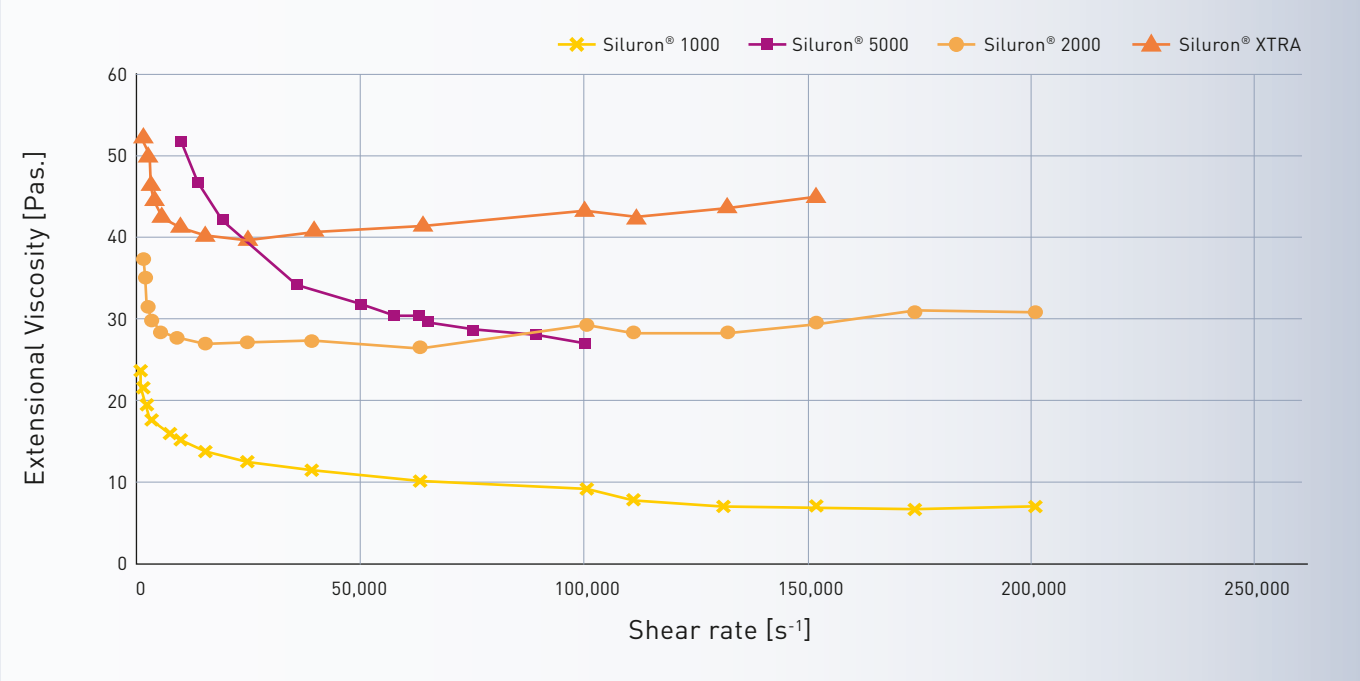
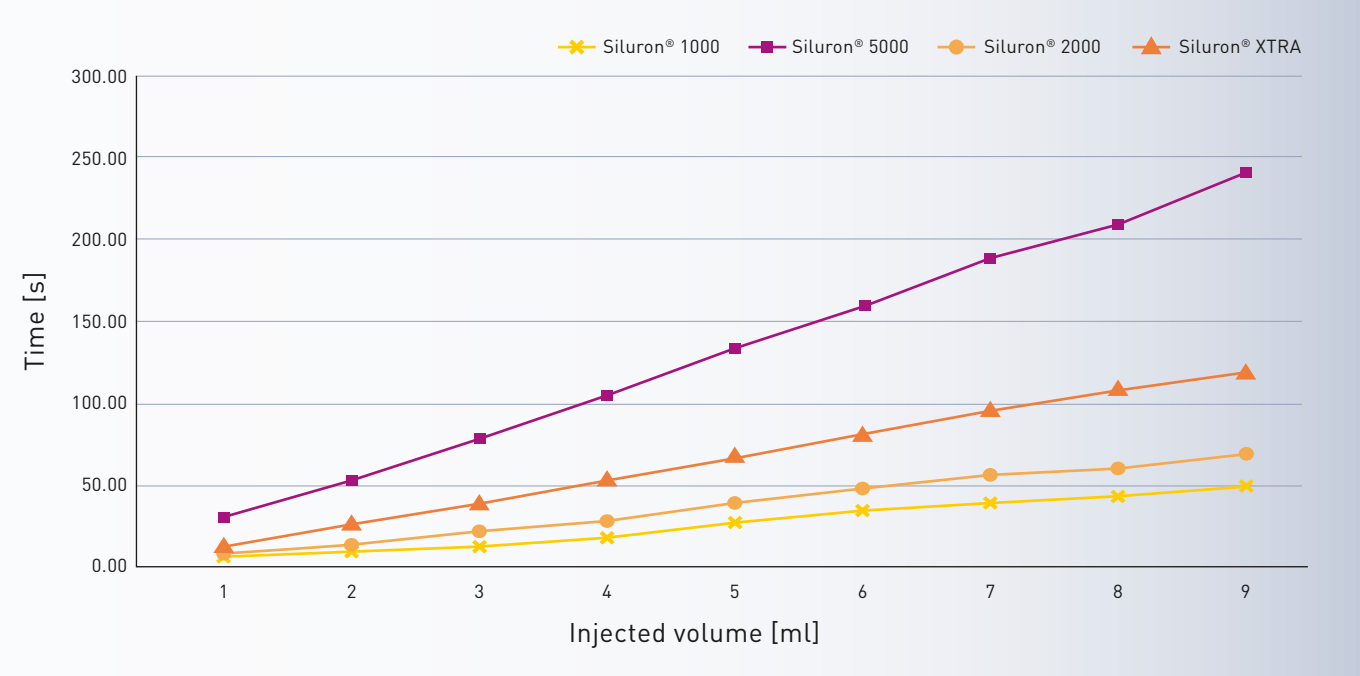
Comparison of emulsification resistance



Source: Wong et. al

Comparison of injection time 5.5 bar injection pressure, 20 gauge injection cannula



Source: Williams RL ., Day MJ ., Garvey MJ., Morphis G ., Irigoyen C ., Wong D., Stappler T.: Injectability of silicone oil-based tamponade agents. Br J Ophthalmol. 2011; 95: 273-276

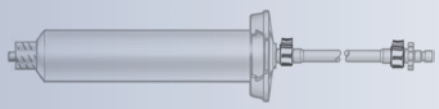
The perfect accessories for Siluron

Single-use cannula

G-34497 to inject silicone oil,
20 Gauge / 0.9 x 8 mm,
10 pcs. per box, sterile
G-34498 to inject silicone oil,
23 Gauge / 0.6 x 8 mm,
10 pcs. per box, sterile

Single-use oil injection system

to inject silicone oil pneumatically, with protective cover for glass syringe, pressure tube fits
G-28766 for GEUDER megaTRON S3 / S4 HPS, sterile
G-28767 for GEUDER megaTRON, ALCON®, sterile
G-28768 for Bausch & Lomb, sterile

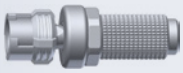


Single-use syringe

G-31891 Luer-Lock, 10 ml, sterile

Adapter to connect G-28766 silicone oil injection systems

G-28791 for GEUDER megaTRON, ALCON®, AMO GEMINI® / WHITESTAR Signature®
G-28792 for Örtli® systems
G-28793 for Bausch & Lomb
G-28794 Luer-Lock female
G-28795 Luer-Lock male
G-28796 for DORC Associate / EVA

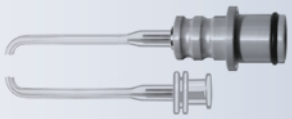


Single-use pressure tube

G-32696 for injection of viscous fluid, Luer-Lock female / male
10 pcs. per box, sterile

Stopper for viscous fluid aspiration

G-33060 with tube connection for disposable syringe 5 ml
G-33065 with tube connection for disposable syringe 10 ml
G-33066 with tube connection for disposable syringe 20 ml



Hoerauf spreading forceps

G-33032 for silicone oil removal

Sclera spreading forceps

G-26230 for silicone oil removal

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