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.

- High resistance to emulsification
- Short injection time
- Exceptional long-term tolerance
- Excellent chemical purity

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 **G-80740** Siluron® 2000 syringe 10 ml, sterile
Siluron® Xtra **G-80750** Siluron® Xtra syringe 10 ml, sterile

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.

Exceptional long-term tolerance

Excellent chemical purity

Siluron® 1000 **G-80710** Siluron® 1000 vial 10 ml, sterile | **G-80720** Siluron® 1000 syringe 10 ml, sterile
Siluron® 5000 **G-80810** Siluron® 5000 vial 10 ml, sterile | **G-80820** Siluron® 5000 syringe 10 ml, sterile

The proven standard silicone oil tamponade

The proven standard silicone oil long-term tamponade

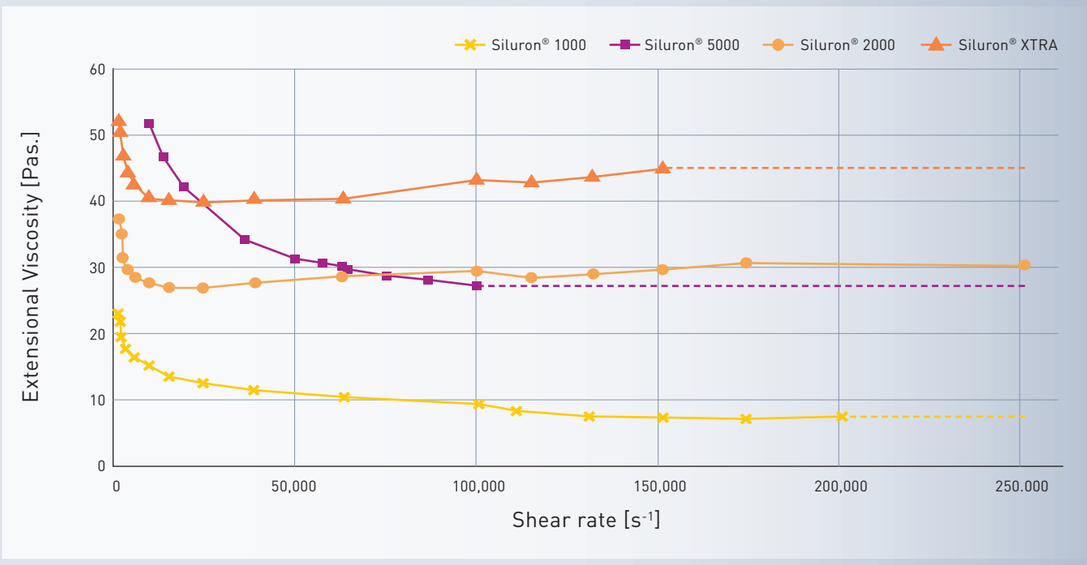
Overview of Properties

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	4,100 - 4,800
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	100 % Poly-dimethylsiloxan	95 % Siluron 1,000 + 5 % 2.5 Mio. mPas	90 % Siluron 1,000 + 10 % 2.5 Mio. mPas
Elasticity (Je^0) [Pas]	2 x 10^{-5}	1 x 10^{-5}	6.5 x 10^{-4}	1.4 x 10^{-3}
Shear viscosity (at 8,37 s^{-1}, 37 °C) [mPas]	931	4,303	1,800	4,377
Volatile components (200 °C, 24 h) [%]	⩽ 0.2 %	⩽ 0.2 %	⩽ 0.2 %	⩽ 0.2 %

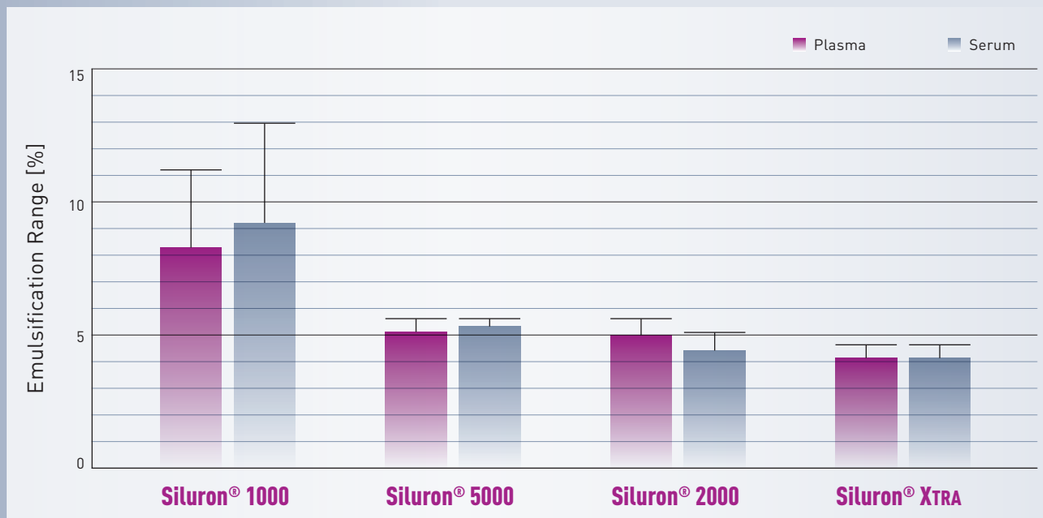
Source: Caramoy A ., Hagedorn N ., Fauser S ., Kugler W ., Gross T ., Kirchhof B.: Development of emulsification-resistant silicone oils: can we go beyond 2000 mPas silicone oil? Invest Ophthalmol Vis Sci. 2011; 52: 5432-5436

Comparison of emulsification resistance



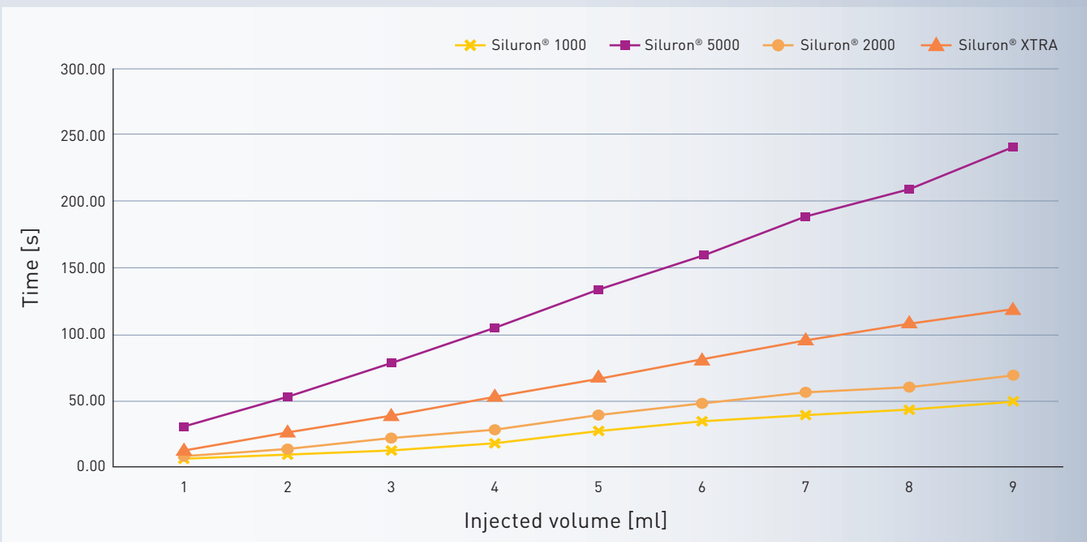
Source: Wong D., Stappler T. et al. in preparation

Comparison of emulsification rate



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 injection time 5.5 bar injection pressure, 20 gauge injection cannula



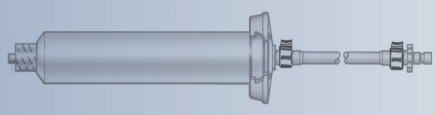
Source: Williams RL ., Day MJ ., Garvey MJ., Morphis G ., Irigoyen C ., Wong D., Stappler T.: Br J Ophthalmol. 2011; 95: 273-276

The perfect accessories for Siluron

G-34497
Single-use cannula
to inject silicone oil
20 Gauge / 0.9 mm x 8 mm
5 pcs. per box, sterile

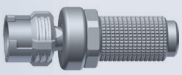
G-34498
Single-use cannula
to inject silicone oil
23 Gauge / 0.6 mm x 8 mm
5 pcs. per box, sterile

G-28766
Single-use oil injection system
to inject silicone oil pneumatically, with protective cover for glass syringe, pressure tube fits MEGATRON S3 / S4 HPS, sterile



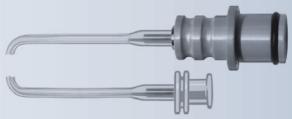
G-31891
Single-use syringe
Luer-Lock, 10 ml, sterile

Adapter to connect G-28766 silicone oil injection systems
G-28791 for Geuder Megatron, ALCON Accurus, AMO Gemini
G-28792 for Örtli systems
G-28793 for Bausch & Lomb Millennium
G-28794 Luer-Lock female
G-28795 Luer-Lock male
G-28796 for DORC Associate



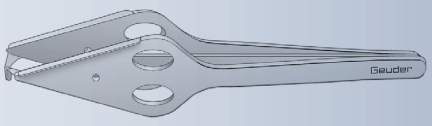
G-32696
Single-use pressure tube
for injection of viscous fluid, Luer-Lock female / male
10 pcs. per box, sterile

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



G-33032
Hoerauf spreading forceps
for silicone oil removal

G-26230
Sclera spreading forceps
for silicone oil removal



Manufacturing of silicone oils:
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