

Siluron[®]

Ultrapurified silicone oils
for intraocular use

new!



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

High resistance to emulsification

Short injection time

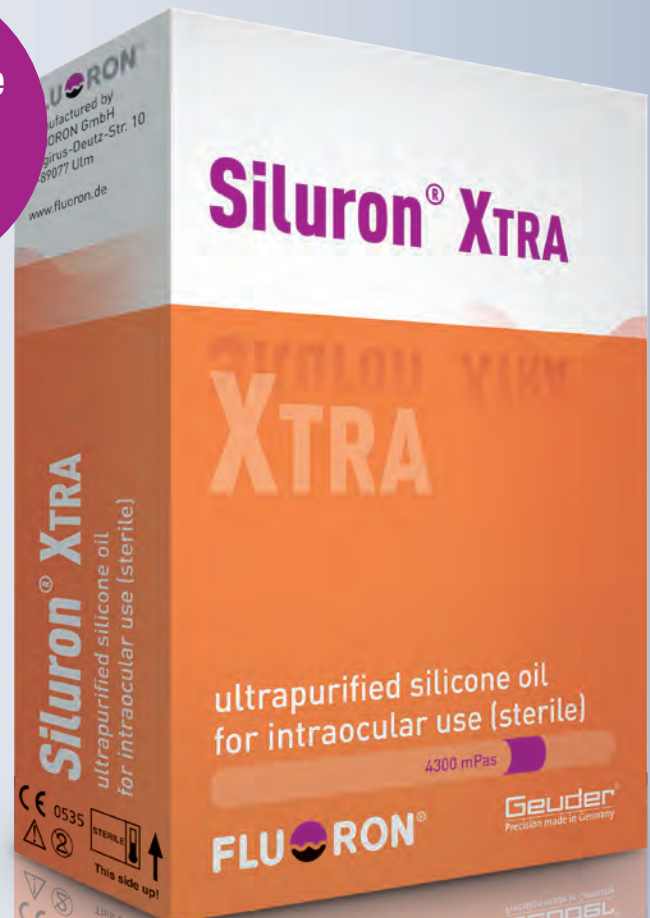
Exceptional long-term tolerance

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 | **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

Exceptional long-term tolerance

Excellent chemical purity



The proven standard silicone oil tamponade



The proven standard silicone oil long-term tamponade

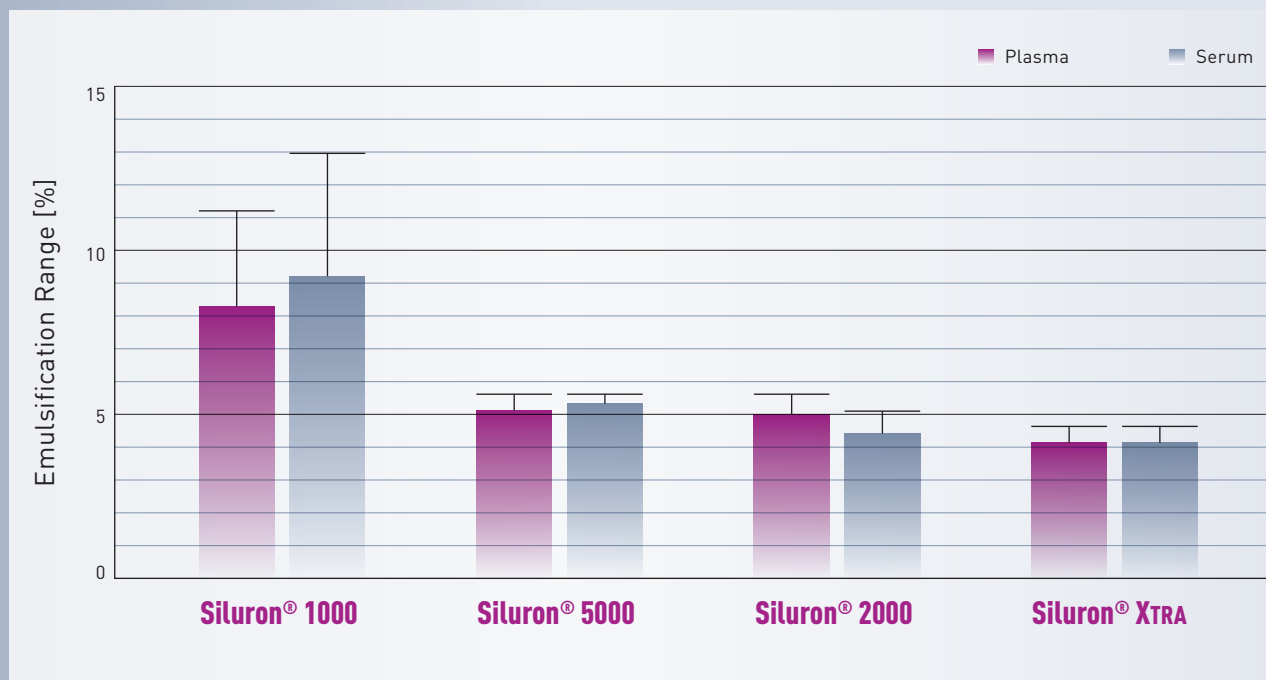
Overview of Properties

Physicochemical properties of Siluron® oils

| Property | Siluron® 1000 | Siluron® 5000 | Siluron® 2000 | Siluron® Xtra |
|--|---------------------------|---------------------------|--------------------------------------|---------------------------------------|
| Density [g/cm ³] 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% |

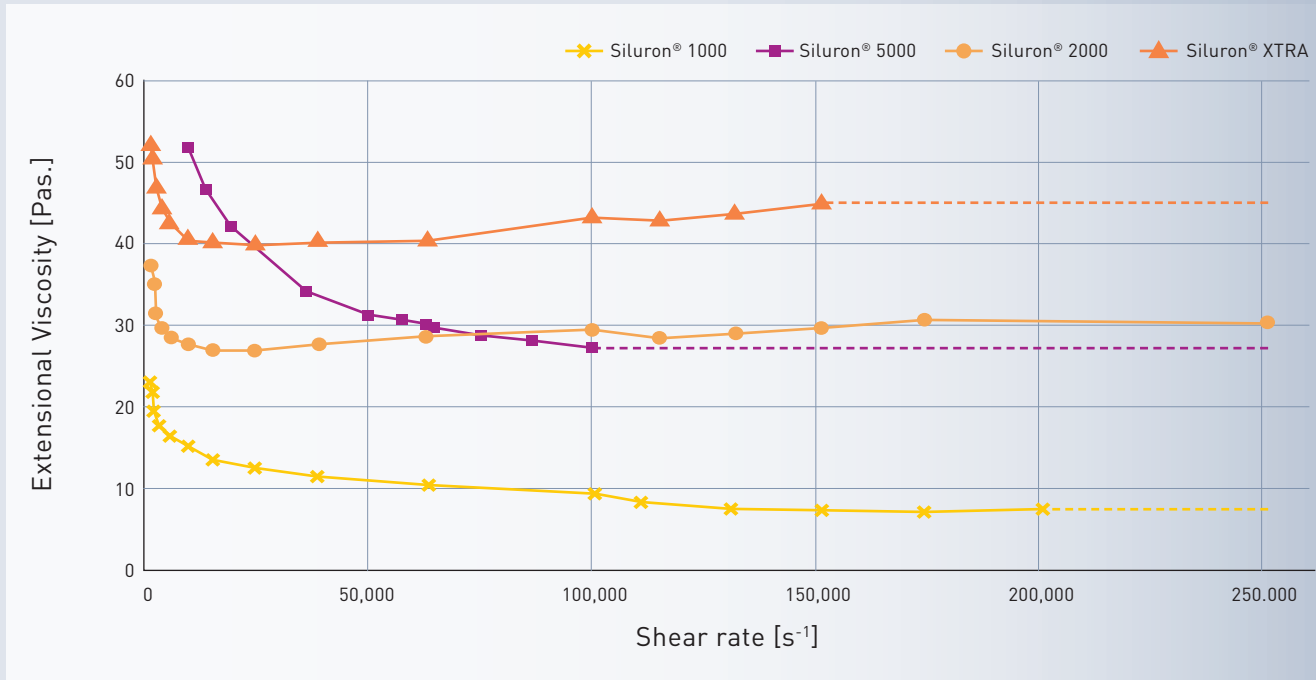
Source: Caramoy A., Hagedorn N., Fauser S., Kugler W., Gross T., Kirchof B.: Development of emulsification-resistant silicone oils: can we go beyond 2000 mPas silicone oil? Invest Ophthalmol Vis Sci. 2011; 52: 5432-5436

Comparison of emulsification rate



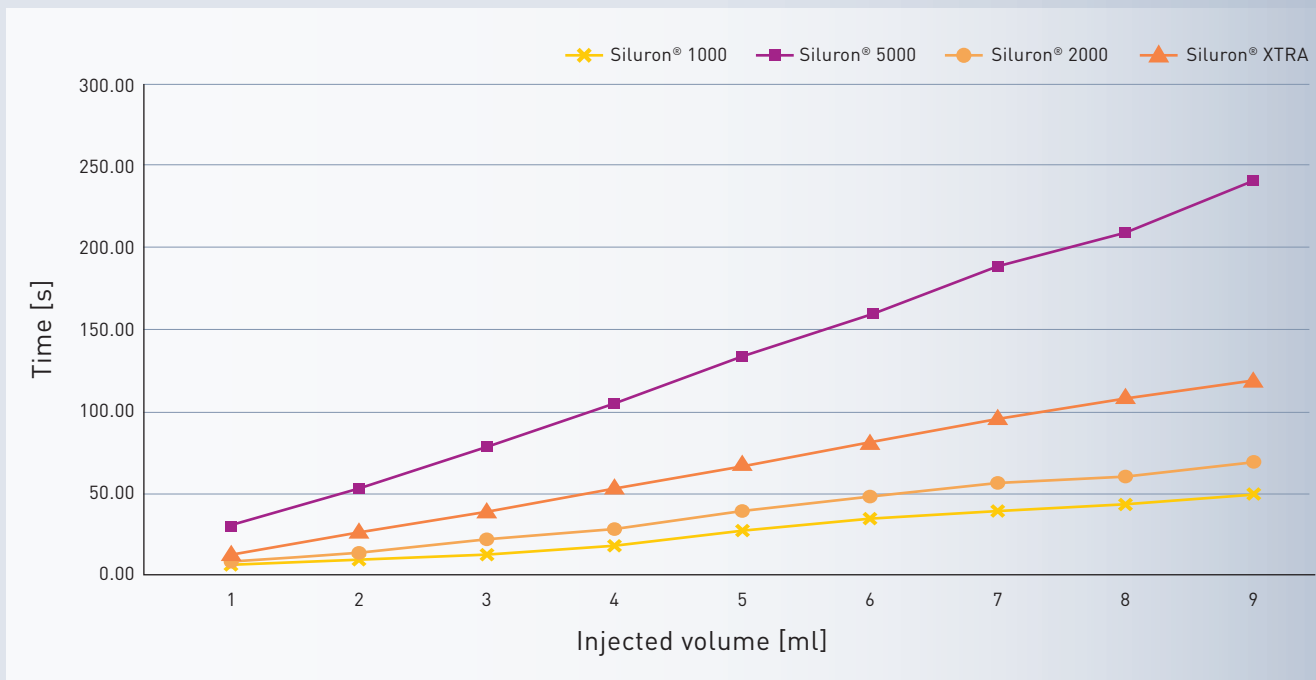
Source: Caramoy A., Hagedorn N., Fauser S., Kugler W., Gross T., Kirchof B.: Development of emulsification-resistant silicone oils: can we go beyond 2000 mPas silicone oil? Invest Ophthalmol Vis Sci 2011; 52: 5432-5436

Comparison of emulsification resistance



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

Comparison of 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

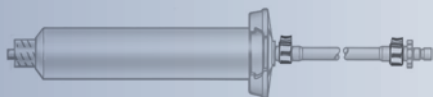
to inject silicone oil
23 Gauge / 0.6 mm x 8 mm
5 pcs. per box, sterile



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

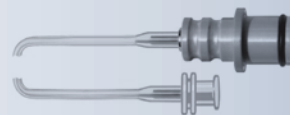


Stopper for viscous fluid aspiration

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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