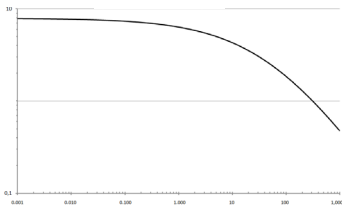


ophtha futur®  
**hpmc**

## Curve of Dynamic Viscosity [Pa·s] <sup>(1)</sup>



Shear Rate [ $s^{-1}$ ] <sup>(2)</sup>

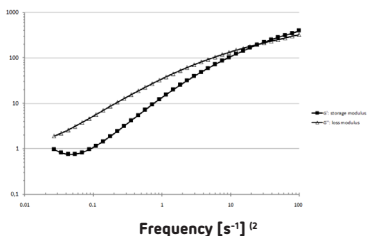
- (1) Curve of Dynamic Viscosity | Dynamische Viskosität | Courbe de Viscosité Dynamique | Curva de Viscosidad Dinámica | Curva di Viscosità Dinamica | Curve van de Dynamische Viscositeit | Křivka Dynamické Viskozity | Dinamikus Viskozitás Görbe | Krzywa Lepkości Dynamicznej | Кривая Динамической Вязкости (паскаль-секунд)
- (2) Shear Rate | Scherrate | Taux de Cisaillement | Tarifa del Esquileo | Gradiente di Velocità | Afschuifsnelheid | Míra Smyku | Nyíróarány | Szybkość ścinania | Скорость Сдвига (секунд<sup>-1</sup>)



Information as of: | Stand der Information: | Informations en date de : | Información de: | Informazioni valide al: | Informatie per: | Informace ke dni: | A tájékoztató összeállításának időpontja: | Informacja począwszy od: | Информация по состоянию на:

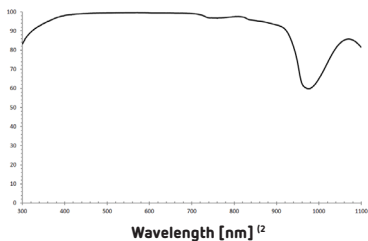
04/2019

## Elasticity (Curves of Elasticity & Viscosity Modulus $G'$ , $G''$ ) [Pa] <sup>(1)</sup>



- (1) Elasticity – Curves of Elasticity & Viscosity Modulus | Elastizität – Kurven Elastizitäts- & Viskositätsmodul | élasticité – Courbes de Module élastique & Visqueux | Elasticidad – Curvas de Módulo Elástico y Viscoso | Elasticità – Curve Modulo Elastico e Viscoso | Elasticiteit – Curves Elastische en Visceuze Modulus | Pružnost – Křivky Elastické a Viskózní Modulem | Rugalmasság – Elasztikus és Viskózus Modulus Görbék | Elastyczność – Krzywe Elastyczna i Modułu Lepkości | эластичность – Кривые упругой и модуль вязкости
- (2) Frequency | Frequenz | Fréquence | Frecuencia | Frecuenza | Frequentie | Kmitočet | Frekvencia | Częstotliwość | частота (секунд<sup>-1</sup>)

## Curve of Spectral Transmittance <sup>(1)</sup>



- (1) Curve of Spectral Transmittance | Spektrale Transmissionskurve | Courbe de Transmittance Spectrale | Curva de Transmisión Espectral | Curva di Trasmittanza Spetttrale | Curve van de Spectrale Doorlaatbaarheid | Křivka Spektrální Propustnosti | Spektrális Áteresztési Görbe | Krzywa Transmitancji Widmowej | Кривая Спектрального Коэффициента Пропускания Спектрального Коэффициента Пропускания
- (2) Wavelength | Wellenlänge | Longueur d'onde | Longitud de Onda | Lunghezza d'onda | Golflengte | Vlnová Délka | Hullámhossz | Długość Fali | Длина Волны (нм)

**Composition and characteristics:**

1 mL of **ophthafutur hpmc 2 %** solution comprises 20 mg HPMC (hydroxypropyl methylcellulose) as rheological active ingredient with a molecular weight of 80 kDa in balanced salt solution containing water for injection, sodium chloride, sodium acetate, sodium citrate, potassium chloride, calcium chloride, and magnesium chloride. **ophthafutur hpmc 2 %** is sterile with an osmolality of 285 mOsm/kg, a pH value of 7.0, and a refractive index of 1.336. **ophthafutur hpmc 2 %** does not contain preservatives.

In literature, hydroxypropyl methylcellulose (HPMC) is often designated as hypromellose or methylhydroxypropylcellulose.

For customer convenience, an approved and CE-certified viscoelastic cannula is included in the final product.

**Indications:**

**ophthafutur hpmc 2 %** is intended as an auxiliary during ophthalmologic interventions and examinations.

Intraocularly, **ophthafutur hpmc 2 %** is used as a volume substitute for the aqueous humor to maintain anterior segment integrity and anatomical spaces during intraocular interventions, to protect intraocular tissues (i.e. the corneal endothelium), to sustain corneal transparency as well as for the lubrication of intraocular lenses (IOL) and surgical instruments.

Extraocularly, **ophthafutur hpmc 2 %** is used for moisturization and protection of the corneal anterior surface by pre-corneal application throughout ophthalmologic interventions or usage as an adjuvant for diagnostic and therapeutic contact lenses. Additionally, **ophthafutur hpmc 2 %** is used for lubrication of IOL implantation instruments (injectors).

**Application and dosage:**

**ophthafutur hpmc 2 %** is injected in the anterior part of the eye or applied on the cornea, respectively. Prior to the implantation of intraocular lenses it is recommended to additionally cover the intraocular lens as well as all instruments with **ophthafutur hpmc 2 %** in order to protect the endothelium and surrounding tissues. Avoid overfilling of the eye chamber. At the end of surgical treatment or examination, **ophthafutur hpmc 2 %** must be removed by rinsing with a suitable solution (e.g. Ringers solution) and/or aspiration. Traces that remain after surgery will vanish almost completely ( $\geq 98\%$ ) through Schlemm's canal within 24 hours.

For easy injection, it is recommended to use 23G blunt cannulas with a large inner diameter.

In case of intraocular injection, the suitable volume differs case by case and depends on the specific treatment. For topical use, the cornea should be covered evenly with **ophthafutur hpmc 2 %**, if not otherwise intended.

The disposal of **ophthafutur hpmc 2 %** has to be performed according to national regulations.

**Contraindications:**

**ophthafutur hpmc 2 %** should not be used in patients with hydroxypropyl methylcellulose hypersensitivity.

**Adverse reactions:**

In rare cases a slight and only temporary increase of the intraocular pressure was noticed after surgical treatment.

**Interactions:**

Interactions or incompatibilities are not known.

**Warnings and precautions:**

This product should only be used by professional users, who are familiar with the use of such a product. Precautions are the same as those associated with this type of surgical procedures. Injection of excessive amounts of **ophthafutur hpmc 2 %** may increase intraocular pressure (IOP) temporarily. An excessive IOP may also be caused by a pre-existing glaucoma condition, by reduced outflow, and by operative procedures and their aftereffects. Because these factors vary from case to case and are difficult to predict, the following precautions are recommended: → Do not overfill the eye with **ophthafutur hpmc 2 %**. → At the end of surgery, all remaining **ophthafutur hpmc 2 %** should be removed by irrigation and/or aspiration. → Carefully monitor the IOP, especially during the immediate post-operative period. In case that a significant increase of IOP is observed, treat appropriately. → Avoid the injection of an air bubble at the end of the surgery. → Content is only sterile if the sterile barrier is unopened and undamaged. → Do not use after expiration date. → Single use only.

With topical use of **ophthafutur hpmc 2 %**, e.g. in the gonioscopy, the vision can temporarily slightly decrease due to the occurrence of streaks. Make sure that **ophthafutur hpmc 2 %** does not dry.

**Storage:**

**ophthafutur hpmc 2 %** should be stored at temperature 4 °C – 25 °C (above 40 °C risk of flocculation) and protected against freezing.

**Shelf life:**

3 years. **ophthafutur hpmc 2 %** must not be used after expiration date.

**Content and sterilization:**

**ophthafutur hpmc 2 %** is supplied STERILE in a disposable prefilled syringe with 2 ml HPMC-solution for ophthalmic application. **ophthafutur hpmc 2 %** is terminally sterilized by moist heat.



EN Manufacturer  
DE Hersteller  
FR Fabricant  
ES Fabricante  
IT Fabbrikante  
NL Fabrikant  
CS Výrobce  
HU Gyártó  
PL Producent  
RU Изготовитель

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