

# BIOVIS®

## BIOPOLYMERIC VISCOSIFIER FOR DRILLING FLUIDS / BRINES

**BIOVIS** is a non-ionic, readily water-soluble biopolymer produced through fermentation of a carbohydrate by a fungus.

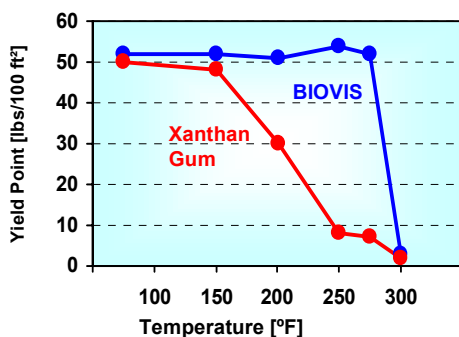
**BIOVIS** solutions exhibit exceptional shear-thinning rheology and suspending ability.

The advantages of **BIOVIS** in comparison to other biopolymers are higher thermal stability, pH stability and tolerance of di- and tri-valent cations such as  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$  and  $\text{Fe}^{3+}$ .

In an aqueous solution, **BIOVIS** molecules adopt a triple-helical conformation and can be described as rigid rods. Under static conditions, these rods form a web-like 3D structure. The resulting gel provides an excellent carrying capacity.

**BIOVIS** shows much higher thermal stability than Xanthan gum (see figure). **BIOVIS** can be used up to 280 °F (140 °C) whereas Xanthan Gum shows a gradual viscosity decrease starting at moderate temperatures of 140 °F (70 °C).

FANN 50 rheology (fresh water, 1.5 % **BIOVIS**)



### APPLICATION

**BIOVIS** is ideal for the following applications:

- drilling fluids
- completion brines
- drill-in fluids
- workover fluids
- gravel packs
- coiled tubing fluids

### BENEFITS

- thermally stable up to 280 °F (140° C)
- stable at pH 1 to 12
- completely tolerant to NaCl, NaBr, KCl
- elevated low shear rheology
- compatible with common drilling fluid additives and cement slurries

### DOSAGE

**BIOVIS** is used in concentrations of 0.5 to 5 ppb depending on application. Like with any biopolymer, high shear (jet-stirring) is recommended to dissolve **BIOVIS**. In brine applications it is recommended to first disperse **BIOVIS** in a lower density brine and then add salt to achieve the required density. The heat developed during the salt addition will greatly enhance the hydration of **BIOVIS**.

**BIOVIS** shows fastest solubility at or above 120 °F (60 °C).

## TYPICAL PROPERTIES

<b>NAME</b>	<b>BIOVIS</b>
<b>CHEMICAL NATURE</b>	<b>Scleroglucan Polysaccharide</b>
<b>APPEARANCE</b>	<b>white cream to beige powder</b>
<b>SAFETY (see MSDS)</b>	<b>Not known as a hazardous substance. Not classified as a dangerous good in the meaning of transport regulations.</b>
<b>SHELF LIFE</b>	<b>At least 1 years under regular storage conditions and in its original unopened bags</b>
<b>FUNCTION</b>	<b>Viscosifier for drilling -, drill-in -, completion - and workover fluids</b>
<b>DOSAGE</b>	<b>0.5 to 5.0 ppb (pounds per barrel) 1.5 to 15 kg per m<sup>3</sup> (cubic meter)</b>
<b>PACKAGING</b>	<b>25 kg (55 lbs) per bag, 1000 kg (40 bags) per pallet</b>

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### Europe, Africa, Middle East & Far East

Degussa Construction Polymers GmbH  
Oilfield Group  
P.O. Box 1262  
83303 Trostberg, Germany

Phone: +49-(0)8621-86 2606  
Fax: +49-(0)8621-86 2026  
www.degussa-cp.com  
degussa-cp@degussa.com

### USA, Canada, Mexico, Latin America

Degussa Corp.  
Construction & Oilfield Polymers  
340 N. Sam Houston Pkwy. Suite 268  
Houston, Texas 77060, USA

Phone: (281) 820-0955  
Fax: (281) 820-0603

info-op@degussa-cop.com