

# PLATFORM CARBOGREEN

SILKIER. SIMPLER. GREENER.

**ASSESSA**  
INNOVATION FOR A GREENER WORLD



## CARBOGREEN PLATFORM FOR THE NEW GENERATION OF COSMETICS

The products of Carbogreen Platform form stable polymeric structures capable of retaining large quantities of water that increase viscosity of cosmetic formulas with a unique texture.

Carbogreen is a texturizer with coemulsifying properties that presents unique sensory in the skin and hair, with fast drying, film formation and excellent spreadability. The products of the Carbogreen platform, when in association, form stable polymeric structures capable of retaining large amounts of water that increase the viscosity of cosmetic formulas, with a unique texture. This exclusive technological platform developed by ASSESSA, allows the formation of Interpenetrating Polymer Networks (Interpenetrating Polymer Networks - IPN) using polysaccharides of botanical origin.

## MAIN BENEFITS

Carbogreen range is made of 100% botanical sources and is fully biodegradable.

Does NOT need neutralizers.

Meets international CHINA and REACH standards.

It is very simple to use. It does not require expensive high-shear stirrers and does not form lumps in the solution.

Is NOT a source of hidden pollution.

## CARBOGREEN | PROPERTIES

### PHYSICAL-CHEMICAL

- White powder
- Preservative free
- Water-soluble
- Opalescent appearance when dispersed in water
- Natural co-emulsifier

### SUSTAINABILITY

- Cosmos Certified
- Biodegradable
- Vegan

### SENSORY

- Natural sensory agent
- Great spreadability
- Fast absorption
- Dry touch (reduces the greasy feel in oily skin)
- Film-formation agent

### TECHNOLOGY





- Mechanism of action IPN and SIPN

### GENERAL

- Improves formula stability
- Improves the sensory and the visual aspect of the formula
- Versatile for different applications and cosmetic formulas



## CARBOGREEN | COMPARATIVE

	DESCRIPTION	INCI	NATURAL INDEX	NATURAL DERIVANT	COSMOS APPROVED
<b>QB</b>	Carbogreen QB can be used in hair and skin care products. It is compatible with quaternary ammonium salts, prevents build-up and reduces hair drying time. In skin products, it adds texture and moisturizes with excellent spreadability. It gives a pleasant, dry and velvety touch to the skin.	Zea Mays (Corn) Starch (and) Caesalpinia Spinosa Gum (and) Algin	91%	100%	
<b>EI</b>	Carbogreen EI adds texture with low tack, is soft to the touch and quickly absorbed by the skin. Ideal for emulsions.	Oryza Sativa Rice Starch (and) Cyamopsis Tetragonoloba (Guar) Gum (and) Algin	91%	100%	
<b>EA</b>	Adds texture with low tack, without an oily touch. Carbogreen EA provides a rich and nutritious feeling, has good spreadability.	Zea Mays (Corn) Starch (and) Cyamopsis Tetragonoloba (Guar) Gum (and) Sodium Carrageena	91%	100%	
<b>EO</b>	Carbogreen EO can be used in emulsions, primers, BB creams, CC creams and exfoliating creams. It forms stable suspensions in formulas with solid ingredients such as pigments, titanium dioxide, mica and exfoliating agents. Adds a dry and velvety touch to the skin.	Oryza Sativa Rice Starch (and) Tapioca Starch (and) Cyamopsis Tetragonoloba (Guar) Gum (and) Algin	91%	100%	

# CARBOGREEN | FORMULATION + TESTS

## FORMULATION (HOT PROCESS)

	VISCOSITY (cPs)*		
	PROCESS AT 40°C	PROCESS AT 60°C	PROCESS AT 80°C
<b>QB</b> (3% solution in water)	450	900	1750
<b>EI</b> (3% solution in water)	750	-	1900
<b>EA</b> (3% solution in water)	650	-	1890
<b>EO</b> (3% solution in water)	3600	4400	6500
<b>EO+QB</b> (1% + 2% solution in water)	1550	1950	3400
<b>EO+EA</b> (1% + 2% solution in water)	1900	2100	3500

(\*) Brookfield • Spindle 28 • Speed 50 RPM

## INSTRUCTIONS

Carbogreen requires heating from 40°C to 80°C. The viscosity of the final product is directly proportional to the temperature.

1. Add water at room temperature in a container with good stirring (500 to 800 rpm) using propeller (helix, dissolver or turbine). Different stirring speeds may be needed, depending on the propeller type and container volume or geometry.
2. Add slowly, dispersing Carbogreen with stirring.
3. After adding Carbogreen, start heating until the desired final temperature (between 40°C and 80°C) while stirring.
4. If the formula has other ingredients in the water phase, like glycols, add them before the dispersion of Carbogreen.
5. Heat the final solution to a temperature between 40°C and 80°C (5 to 10 min).
6. Allow cooling.
7. Mix the remaining ingredients of the formula at the recommended temperature.



## USAGE LEVELS

	EMULSIONS	CATIONICS EMULSIONS
<b>QB</b>	0.8 a 3.0	0.8 a 3.0
<b>EI</b>	1.5 a 3.0	1.0 a 3.0
<b>EA</b>	1.0 a 2.0	-
<b>EO</b>	1.0 a 2.0	1.0 a 2.0

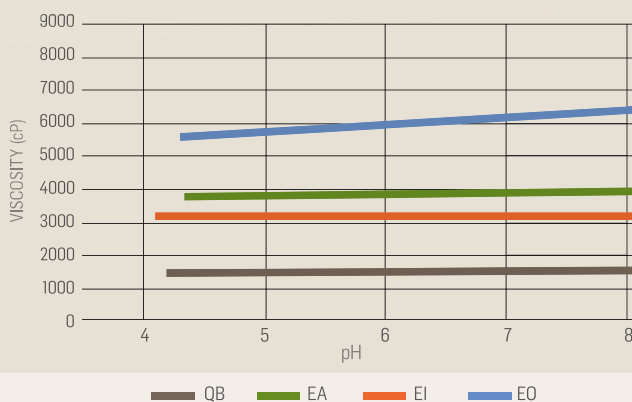
## USAGE LEVELS IN ASSOCIATION

	SERUM/HIDROGEL	SURFACTANTS (MAX15%)*
<b>EO+QB</b>	1.0 % + 2.0 %	1.0 % + 2.0 %
<b>EO+EI</b>	1.0 % + 2.0 %	1.0 % + 2.0 %
<b>EO+EA</b>	1.0 % + 2.0 %	1.0 % + 2.0 %

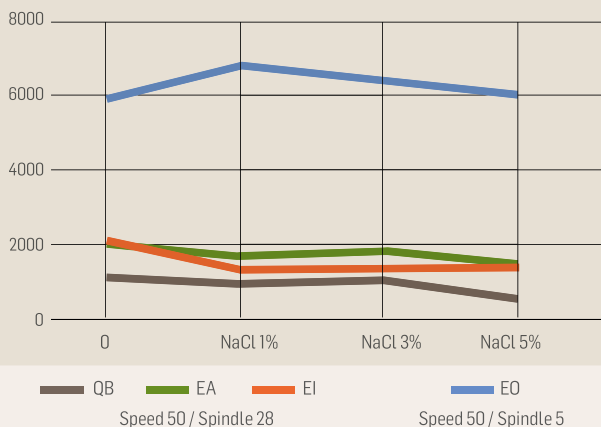
\* Non-ionic surfactants have excellent foam, creaminess and silky sensory properties. Anionic surfactants have more astringent foam. In both cases the maximum surfactant limit is 15%.

**IN ADDITION TO A SUSTAINABLE ORIGIN, CARBOGREEN WAS CONSIDERED 100% BIODEGRADABLE AFTER 28 DAYS.**

## VISCOSITY x pH



## STABILITY IN THE PRESENCE OF ELECTROLYTES



## COMPARATIVE PANEL (SENSORY ANALYSIS)



PLATFORM

# CARBOGREEN

SILKIER, SIMPLER, GREENER.



THE  
**CARBOGREEN  
PLATFORM  
PRODUCTS**  
IMPROVE THE  
STABILITY,  
THE SENSORIAL  
AND THE VISUAL  
ASPECT OF THE  
FORMULAS.



## CARBOGREEN FAQ

### Does Carbogreen forms gel?

It is necessary to add 1% Carbogreen EO in a combination with 2% Carbogreen QB, EI or EA to form stable hydrogels.

### Is it possible to associate a Carbogreen with Xanthan gum?

Yes. Adding 0.1% of xanthan gum forms a stable hydrogel, but the appearance and sensory may be compromised.

### Can Carbogreen be used with nonionic and anionic surfactants?

Yes, it is possible to incorporate surfactants on Carbogreen bases. Combinations of Carbogreen with nonionic surfactants have excellent foam, creaminess and silky sensory properties. Combination with anionic surfactants have more astringent foam. In both cases, the maximum surfactant concentration is 15%.

### Can Carbogreen be used with quaternary surfactants/ quaternary ammonium salts?

Yes, it is possible to use Carbogreen with quaternary surfactants/quaternary ammonium salts.

### Does Carbogreen form film?

Yes, on skin and hair, improving sensory performance in both cases.

### Is Carbogreen biodegradable/ environmentally friendly?

Yes, in addition to having a sustainable origin, Carbogreen was considered 100% biodegradable after 28 days.

### Does Carbogreen have any odor?

No. Carbogreen is odorless. You do not need to cover the unpleasant smell of some ingredients, allowing you to reduce the concentration of the fragrance.

### Does Carbogreen require heating?

Yes. Carbogreen requires heating to achieve the desired viscosity. The viscosity can be adjusted depending on the processing temperature (see table and graph).



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