MaizeCare™ Style Polymer

How can corn enable a hairstyle that lasts all day?

Features and benefits:

- Ability to achieve a range of hold levels with excellent aesthetics
- Imparts styling durability
- Ideal solution for formulators seeking environmentally-friendly ingredients
- Starch-based film-forming biopolymer
- Easy-to-use powder in water-based formulations
- Aqueous dispersion forms a natural film on the hair
- Excellent humidity resistance and curl retention over 8 hours
- Compatible with gelling agents such as carbomer, xanthan gum and acrylates-based rheology modifiers
- Cost-effective styling polymer
- Can be used in a variety of formulations such as cream gels, waxy pomades, and fluid sprays.

The use and interest in “natural” products have been on the rise in the beauty care industry. Consumers desire natural products, with a similar or better performance than their synthetic alternatives. Dow is excited to introduce MaizeCare™ Style Polymer, a bio-based polymer, derived from corn, that offers styling benefits across hair care applications. In formulation, MaizeCare™ Style Polymer acts as a transparent film-former and styling aid that can range from exceptional stiffness to soft-touch styling. MaizeCare™ Style Polymer can be easily formulated into various product formats, including gels, waxes, creams and sprays which allow for creative textures and a customized consumer experience. Dow has several technologies across our portfolio that showcase exceptional results in hairstyling, making MaizeCare™ Style Polymer an exceptional alternative for “natural” styling that does not compromise performance. We offer two different variants of this hair fixative: MaizeCare™ Style Polymer, MaizeCare™ Style 100 Polymer.

MaizeCare™ Style Polymer is certified COSMOS by EcoCert and both variants meet ISO 16128, Vegan and Halal Food Standards.

Typical properties

INCI name	Hydrolized corn starch
Appearance	Off-white powder
Use level, %	0.5-5%
Shelf life	24 months
China compliant	Yes
Percent moisture	5.0-10.0
Brookfield viscosity (25% solids at RT)	1150-1650 cps

*These are typical properties, not to be construed as specifications.

Approved by ECOCERT RAW MATERIAL

COSMOS APPROVED

Corn-based ingredient

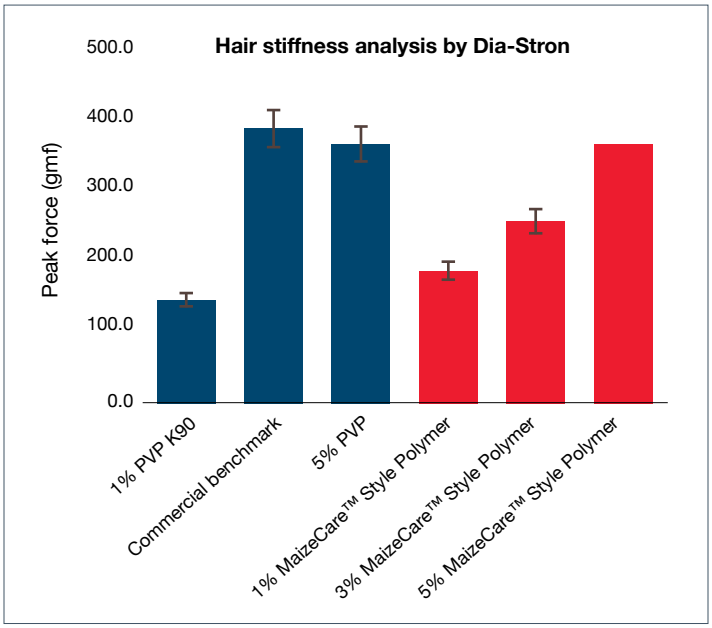
Supports market demand for natural formulations

100% Natural origin content ISO 16128

Delivers various styling benefits

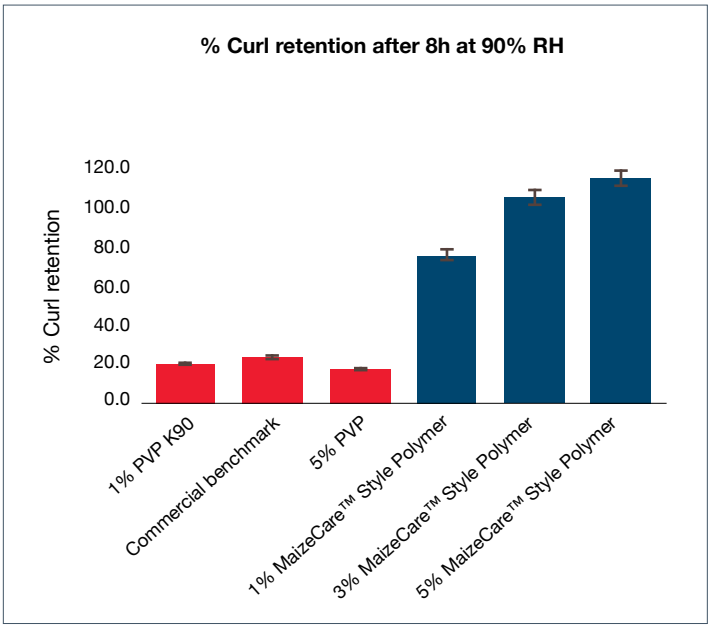
Product name	GMO status	Key benefits
MaizeCare™ Style Polymer	Non-GMO	Bio-based, corn derived from a certified non-GMO source, readily biodegradable, Certified COSMOS by EcoCert
MaizeCare™ Style 100 Polymer	GMO	Bio-based, corn derived polymer, 100% Natural Origin (ISO 16128), readily biodegradable

Styling gel: Subtle to stiff styling definition



Commercial benchmark contains 2.8% PVP

Styling gel: Long lasting curls

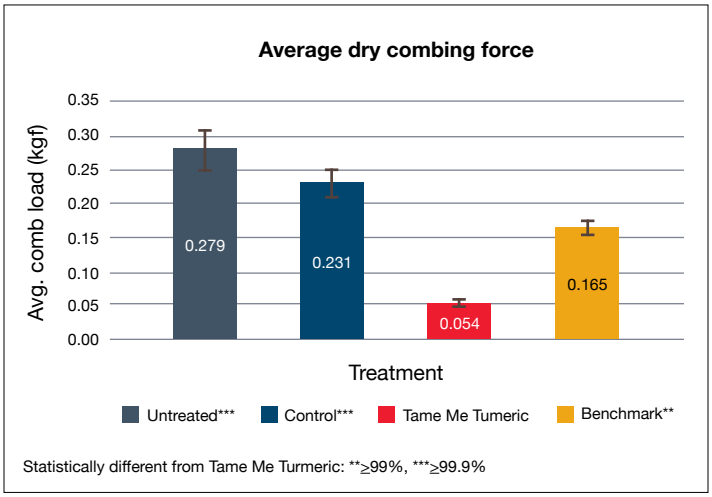


Commercial benchmark contains 2.8% PVP

- ✓ **Comparable stiffness between MaizeCare™ Style Polymer and PVP**
- ✓ **Increased stiffness as a function of polymer loading**

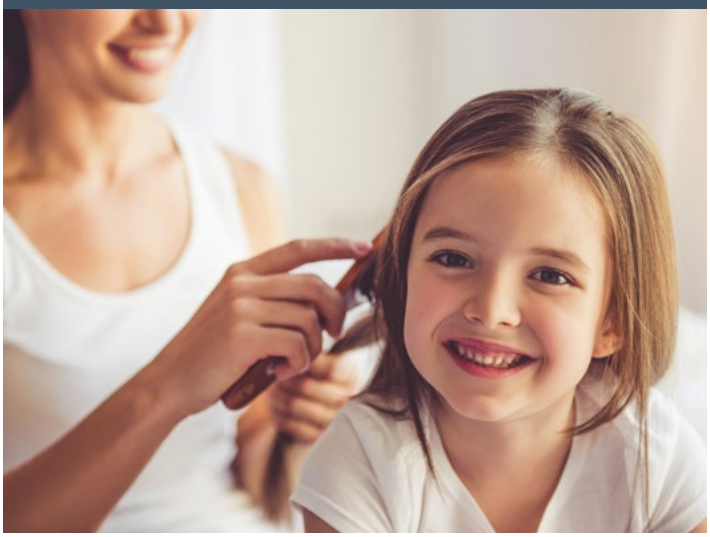
- ✓ **MaizeCare™ Style Polymer exhibits superior humidity resistance to PVP**
- ✓ **MaizeCare™ Style Polymer increases curl retention as a function of polymer**

Tame Me Turmeric – Spray (CPF 4163)



Treatment: 0.15 g / g on dark bleached hair
Control: Formulation without DOWSIL™ CE-8411 Smooth Plus Emulsion or MaizeCare™ Style Polymer
Commercial benchmark: Volumizing spray containing Maltodextrin/VP copolymer
Measured using an Instron tensile instrument

✓ Up to **67%** improved dry combing compared to the commercial benchmark



Panelist washed hair with shampoo and conditioner.
Treatment: Applied 1.75 g of each spray to clean, damp hair.

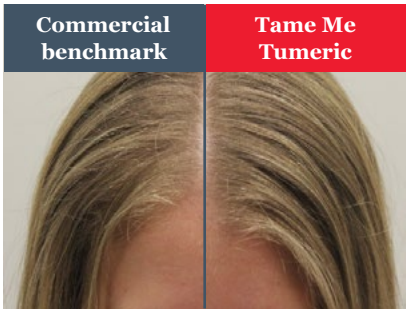
Half-head test

Tame Me Turmeric exhibited sebum absorption, less flyaway and comparable volume to the commercial benchmark containing Maltodextrin/VP copolymer

Before: Panelist after 3 days without washing hair.
Treatment for Sebum absorption: applied 0.75 g of each spray to oily, damp hair.

Before treatment

After treatment



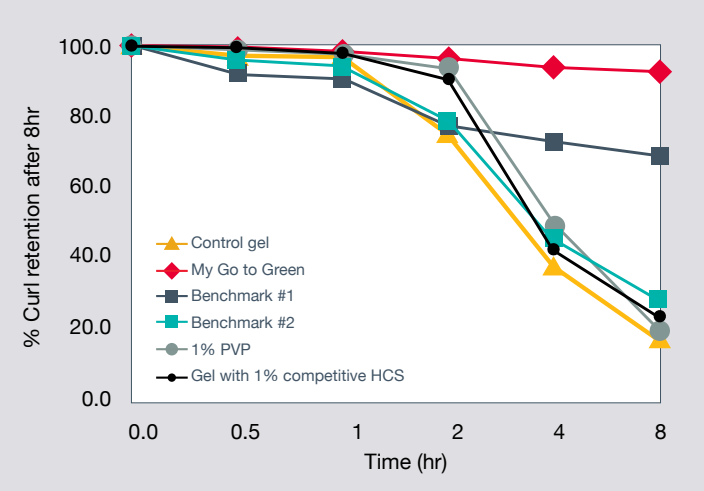
Panelist reported easier combing and detangling with Tame Me Turmeric vs. commercial benchmark.

My Go to Green – Gel (CPF 4165)

Trade name	Supplier	INCI Name	Wt%
Water		Water	91.09
MaizeCare™ Style Polymer	**Dow**	**Hydrolyzed Corn Starch**	**1.00**
ACULYN™ 88 Rheology Modifier	**Dow**	**Acrylates/Steareth-20 Methacrylate Crosspolyer**	**5.75**
Tween20	Croda	Polysorbate 20	0.50
Euxyl PE 9010	Schülke Inc.	Phenoxyethanol (and) Ethylhexyglycerin	0.99
0.1% Green Dye Solution		FD&C Blue #1, FD&C Yellow #5	0.07
Green tea & cucumber	Givaudan	Fragrance	0.05
AMP Ultra PC 2000	Angus	Aminoethyl Propanol	0.55

Contained in this package is a sample prepared as per the formulation described on this card. Any variation in the formulation/procedure may cause performance to change.

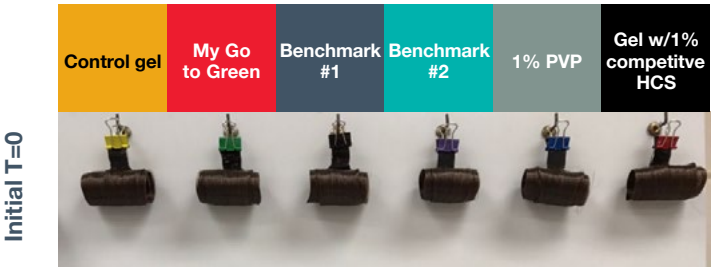
High humidity curl retention



Treatment: Humidity resistance (25°C; 90% RH), 0.35 grams of hair gel on 3.5 grams of virgin dark brown hair, test conducted in for each treatment.

	Ingredient notes
Gel formula – Control	No MaizeCare™ Style Polymer
My Go to Green w/1% MaizeCare™ Style Polymer	1% MaizeCare™ Style Polymer
Commercial benchmark #1	Dehydroxanthan gum
Commercial benchmark #2	Hydrolyzed corn starch
Gel formula w/1% PVP	PVP
Gel formula w/1% hydrolyzed corn starch	Competitive hydrolyzed corn starch

My Go to Green exhibited better humidity resistance compared to PVP, a competitive hydrolyzed corn starch and commercial benchmark #2



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