

Kulvinder Kaur– Head of Sales Personal Care Valida
Sappi

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Discover sustainable
replacements for microplastics
with new technology cellulose

Microplastic Legislation

- On October 17th 2023 the EU regulation EU 2023/2055 to ban synthetic polymer microparticles “microplastics” came into force
- All intentionally added microplastics, on their own or in mixtures, at $\geq 0.01\%$ by weight

Must meet **both** conditions:

1. Are contained in particles and constitute at least 1% by weight of those particles; or build a continuous surface coating on particles;
2. At least 1% of these particles have dimensions ≤ 5 mm or have length ≤ 15 mm and their length to diameter ratio is greater than 3

It's more than just plastic microbeads in rinse-off products...

Solid synthetic polymers also fall into the definition

Uses in cosmetics:

- Stabilisation
- Enhance skin-feel
- Improve spreadability
- Opacifying effect

Many natural polymers in the market but often lacking in at least one of the following:



Valida

INCI of cellulose: cellulose and/or cellulose gum

Renewable

Non-toxic

Fully bio-degradable

COSMOS

Sustainable

Iso naturality
of 0.99

Cold-
processable

*Picture: Sappi Lothair plantation,
South Africa*

Cellulose is the most abundant organic
polymer on earth!



At a glance Sappi group

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12,495
employees in 20 countries

customers in over
150 countries

Sappi Trading

- 8 Sales offices
 - Bogotá
 - Hong Kong
 - Johannesburg
 - México City
 - Nairobi
 - São Paulo
 - Shanghai
 - Sydney

Unlocking the power of trees

**Packaging and
Speciality Papers**
Product Packaging,
Technical papers

Graphic Papers
Commercial Print,
Publishing

Casting and Release Papers
Textures for materials,
Functional films, Automotive wraps

**Xylitol, Furfural, and
Chemicals from Sugars**
Low-calorie Sweetener,
Toothpaste, Recyclable Plastics



CELLULOSE

HEMICELLULOSE

LIGNIN



Verve
Textiles, Cellophane,
Pharmaceuticals



Valida Fibrillated Cellulose
Reinforcing Agent, Control
Release Agent, Viscosity Modifier

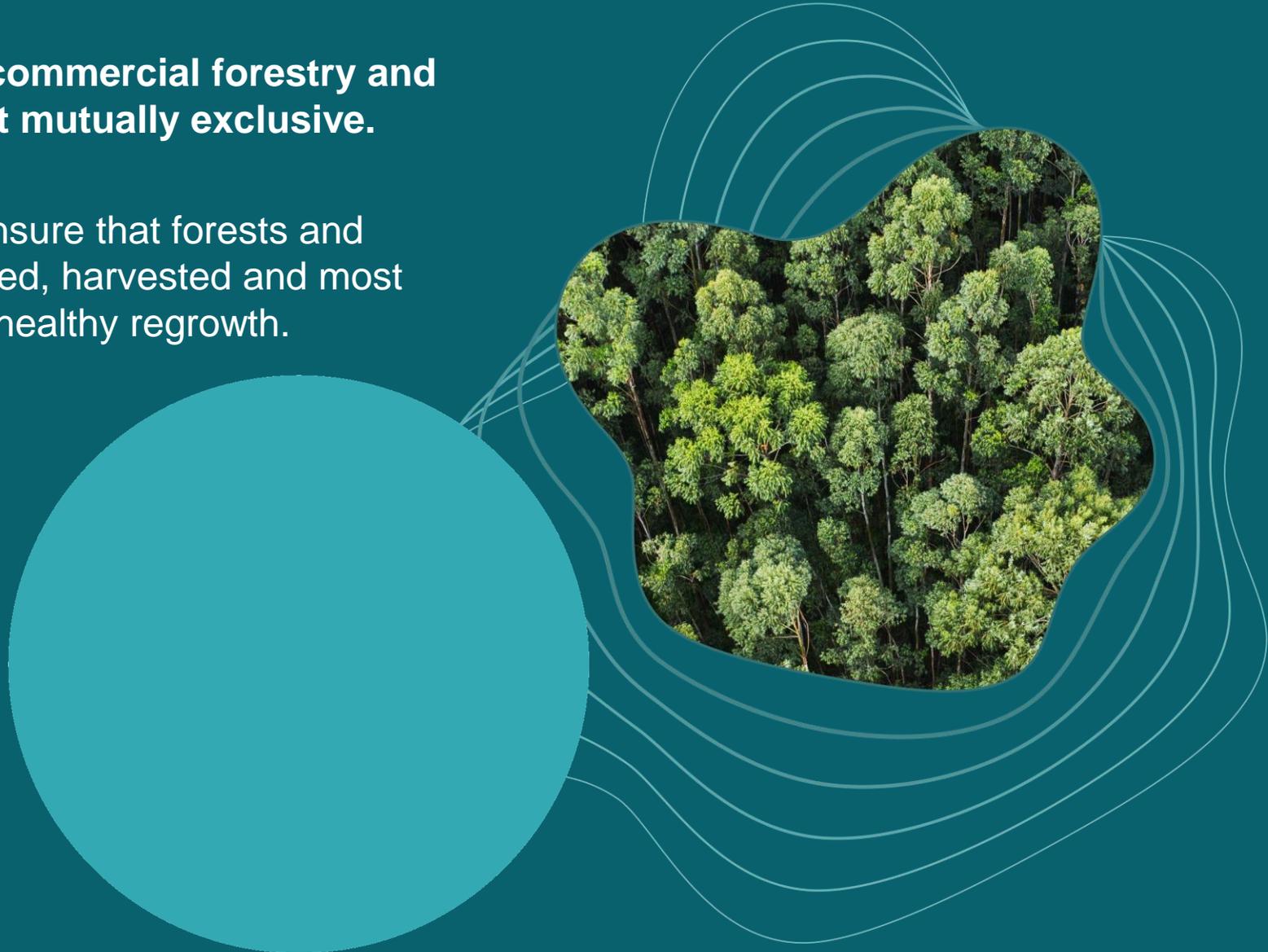


Chemicals from Lignin
Binding Agent, Dispersion
Agent, Emulsion Stabiliser

We grow wood-fibre responsibly

We are here to prove that commercial forestry and forest conservation are not mutually exclusive.

Our policies and practices ensure that forests and plantations are expertly tended, harvested and most importantly, regenerated for healthy regrowth.



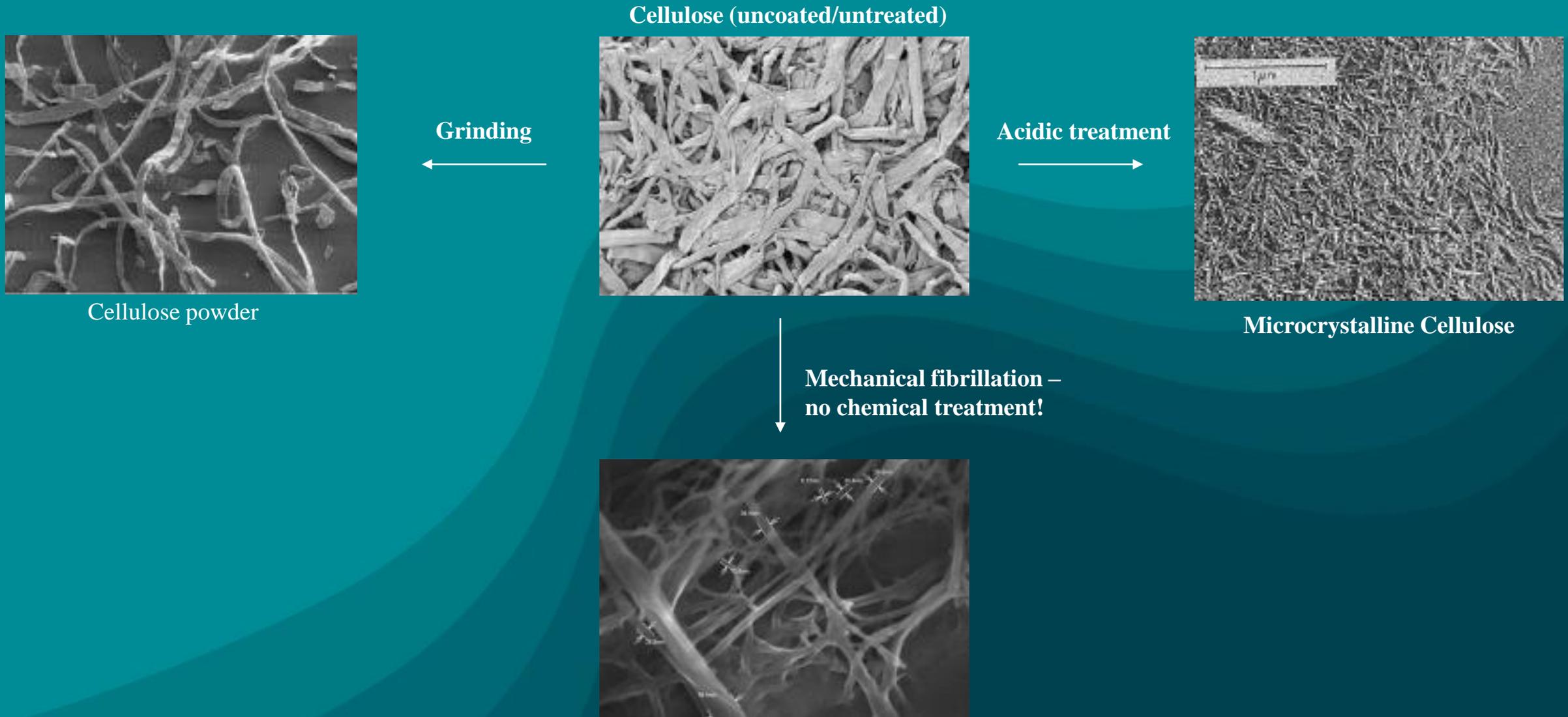
Sustainable Leadership



- Global Sappi commitment to reduce carbon emissions by 2030
- Circular economy – reduce waste treatment and long-term journey to zero waste
- 80 energy projects in the period 2020-2025
- 54% of Sappi global energy used is renewable clean energy; 76% from own biomass
- Achieved Ecovadis rating of platinum in 2022.

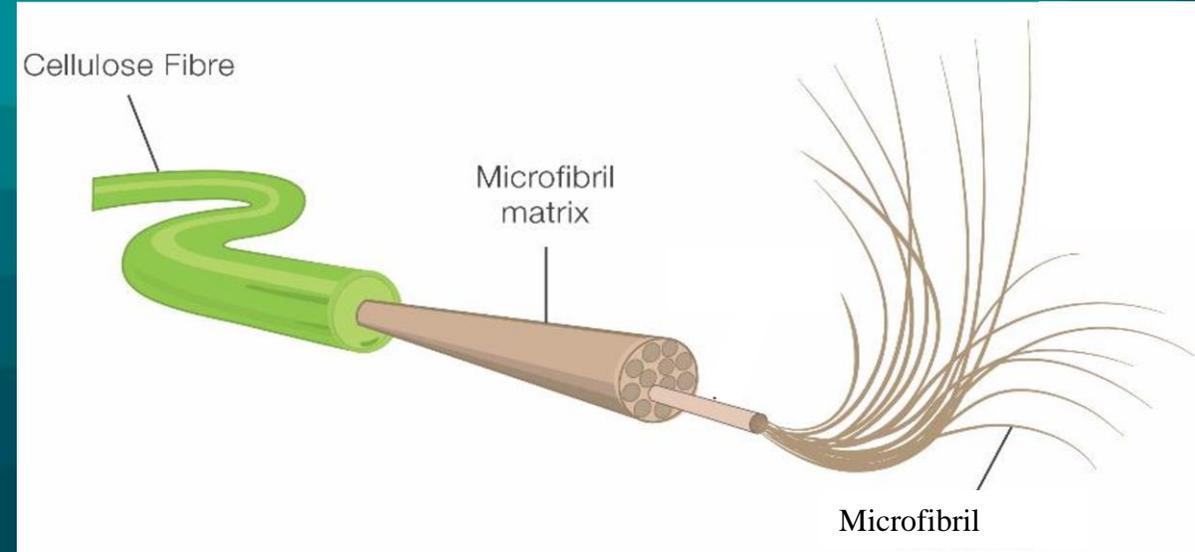


What sets *Valida* apart from other celluloses?



Valida, Fibrillated Cellulose – large surface area and 3D network formation

Valida is Fibrillated Cellulose

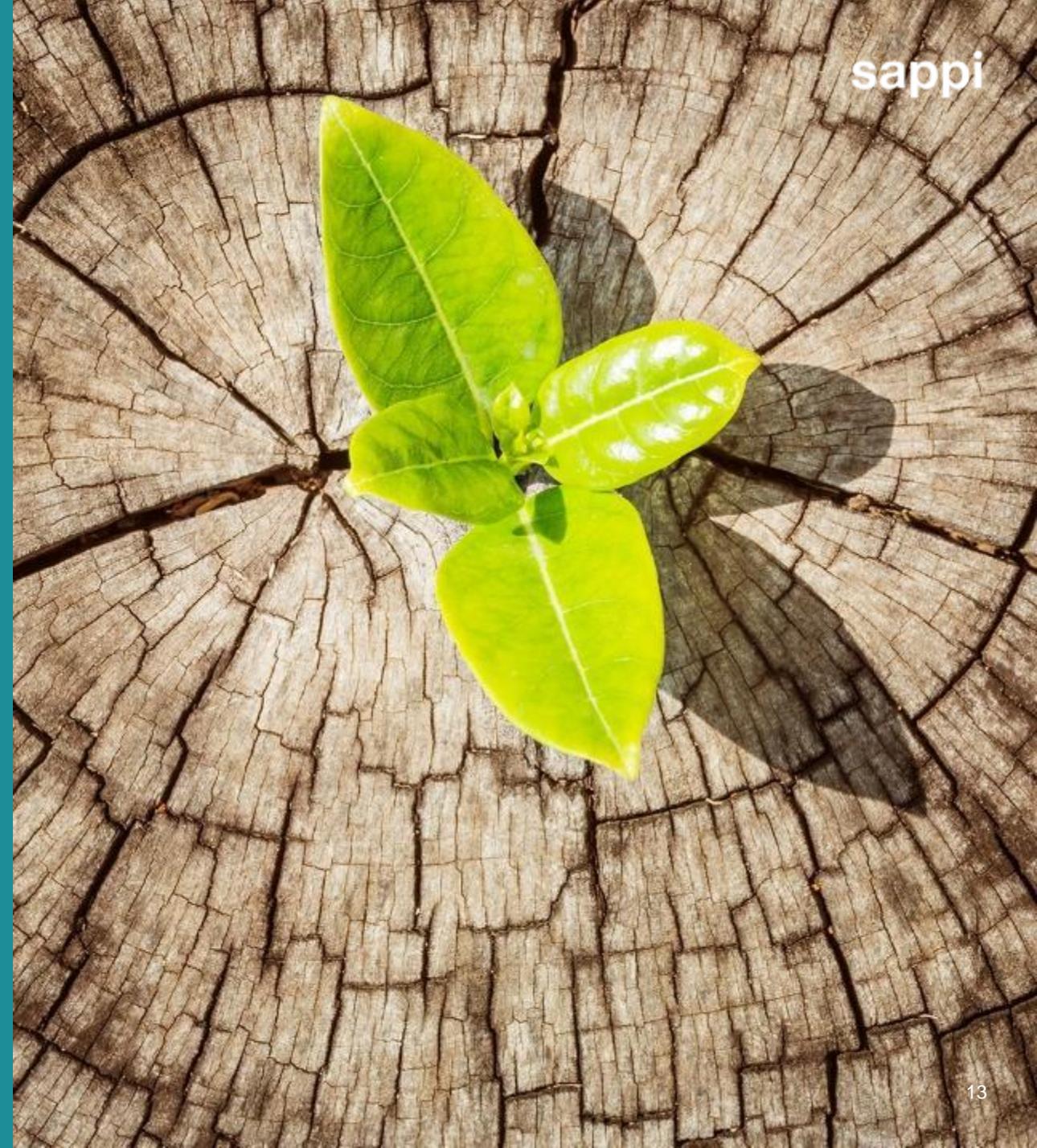


No chemical treatment or modification of cellulose polymer → 100% natural and **fully biodegradable**

Mechanical processing → strong 3D network

Properties of Valida

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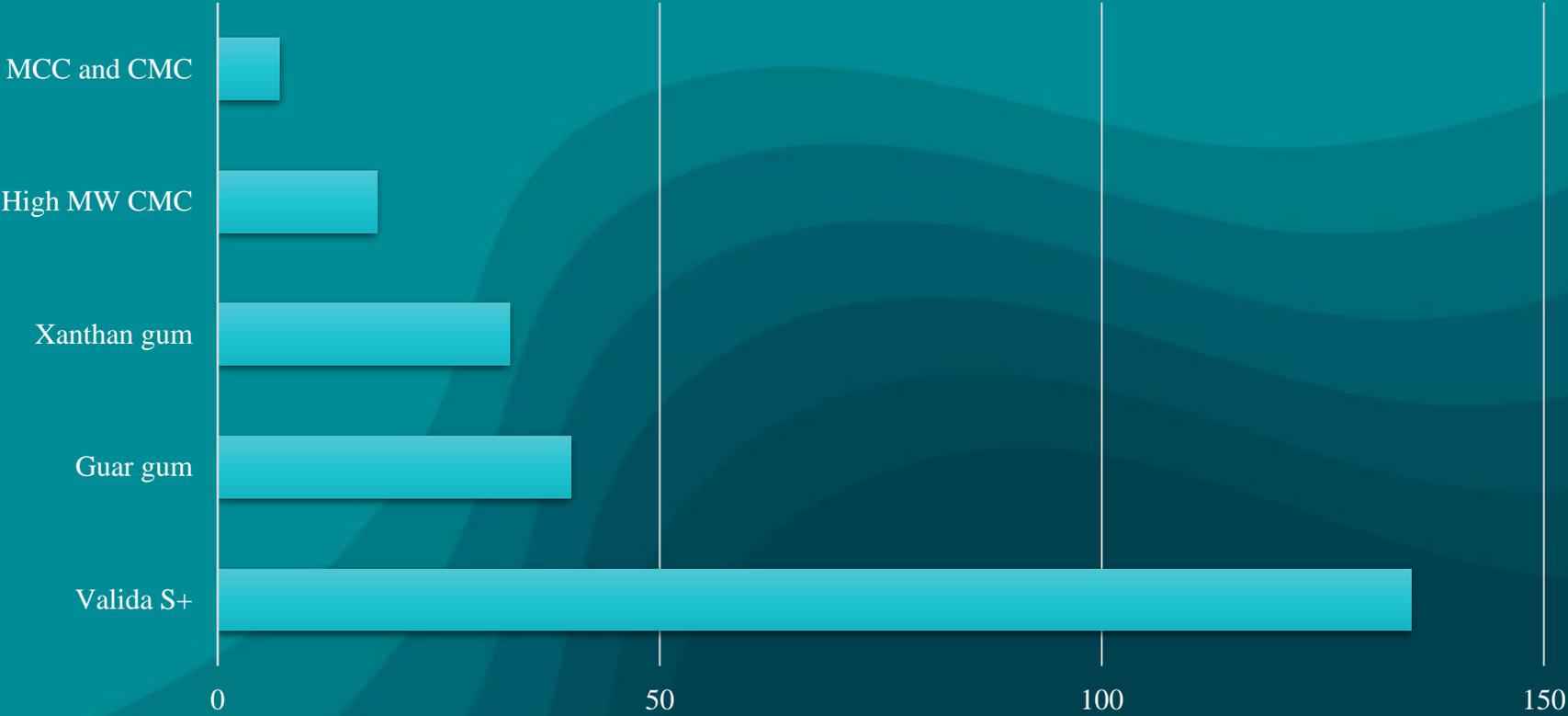




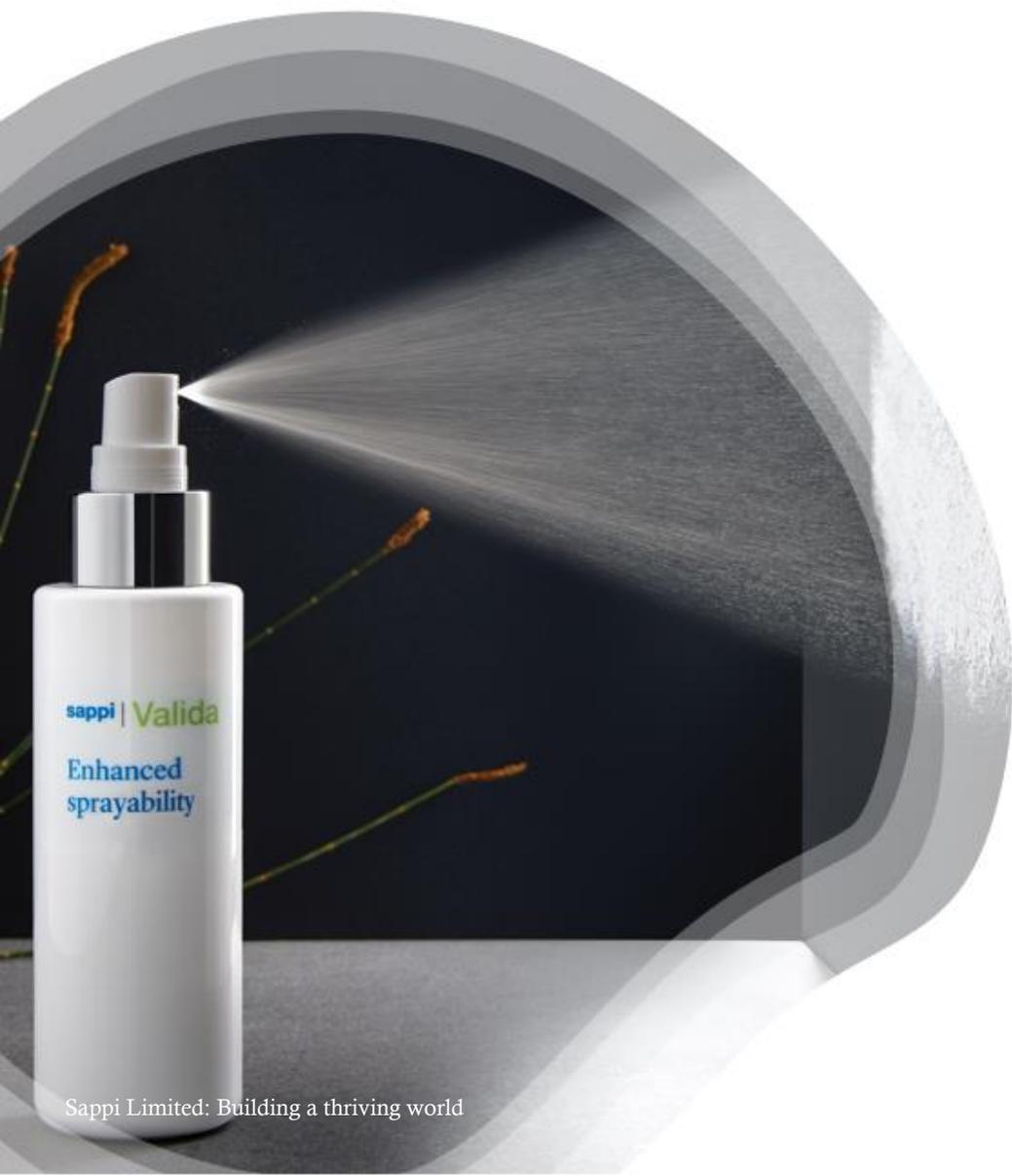
Stabilising
particles
without
increasing
viscosity or
flow!

Stabilising capability

Storage Modulus (Pa)



Measured at 1 wt% of active content of substances



Valida has high shear-thinning rheology

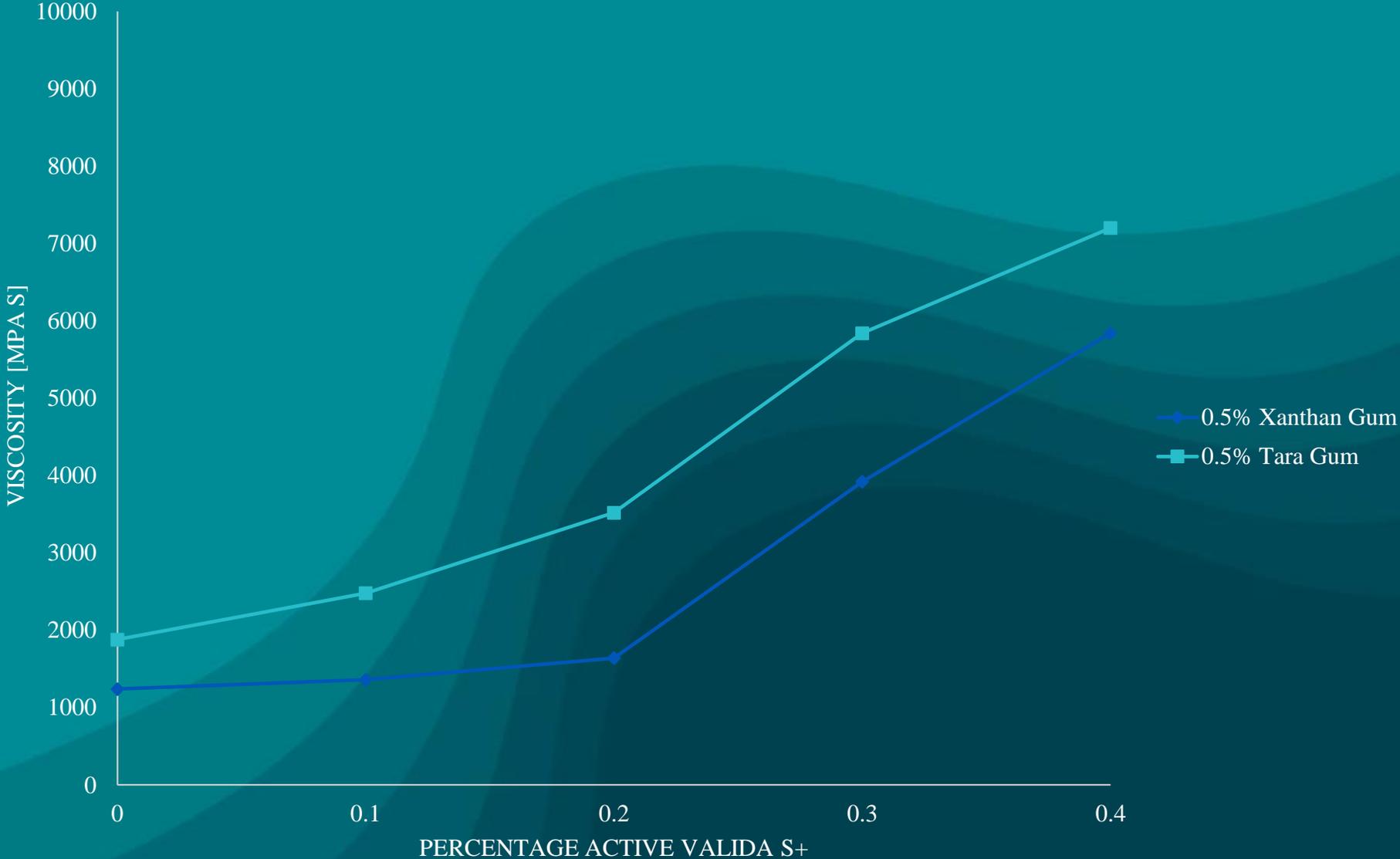
Boost the
viscosity of
thickeners



Create various
textures



Synergy with thickeners



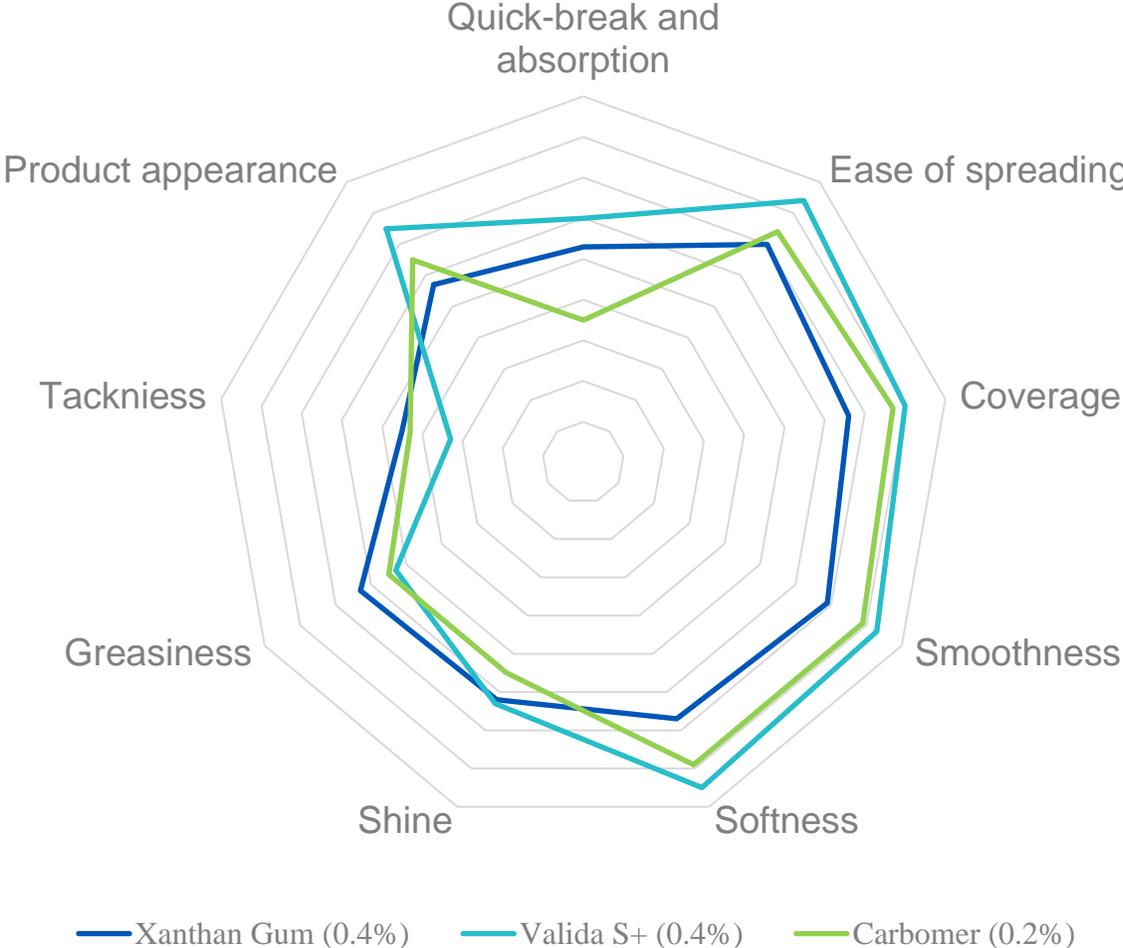
Supreme
skin-feel without
being tacky

Mattifying,
blurring effect

Easy to spread
formulation



Sensory panel test





Valida in formulations -
shampoo

Case study - shampoo

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Study in partnership
with Azelis France

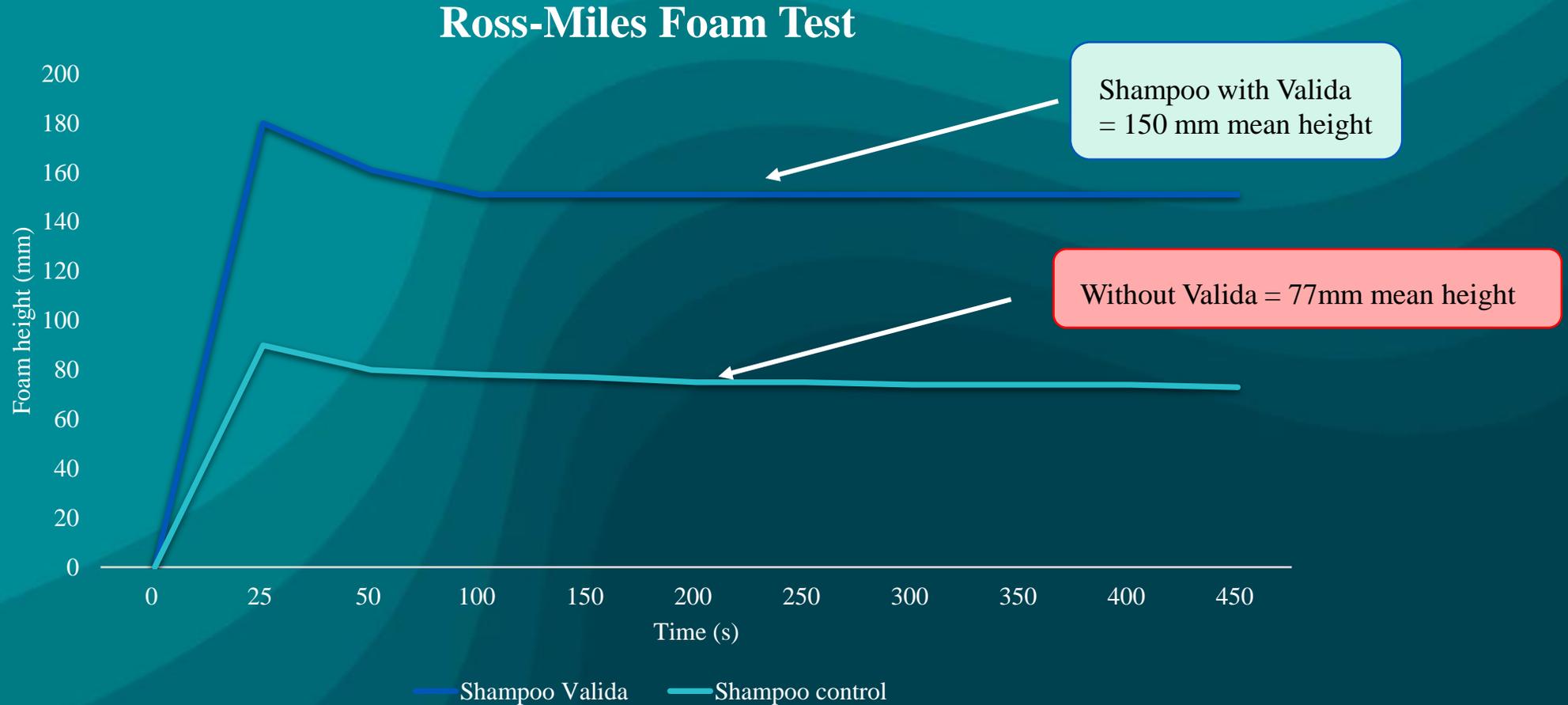
Phase	INCI	%w/w
A	Aqua	26.50
A	Cellulose, cellulose gum, sodium benzoate, citric acid	15.00
A	Sorbitan caprylate, propanediol, benzoic acid	1.00
A	Cocamidopropyl betaine	14.00
B	Hydroxypropyl guar, hydroxypropyl trimonium chloride	0.20
B	Aqua	10.00
C	Sodium cocoyl sothionate	5.60
C	Aqua	10.00
D	Coco methyl glucamide	12.50
E	Carthamus tinctorus (safflower) oleosomes, aqua	2.00
E	Camelia japonica seed oil	2.00
E	Parfum	0.50
F	Malus domestica fruit culture extract, hydroxyacetophenone, ethylhexyl glycerine	0.50
G	Lactic acid, aqua	0.20



2 months at 40°C

Case study - shampoo

The Ross-Miles foam test measures the foamability according to ASTM D1173.
Valida ~ doubles the foam height and remains stable over time



Case study - shampoo

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Foaming capacity on hair strands



200 μ l of shampoo added to length of hair strand



1.5 ml of water added along hair strand



With the thumb, three curl patterns were made 20 times across hair strand to observe foam capacity

Case study - shampoo

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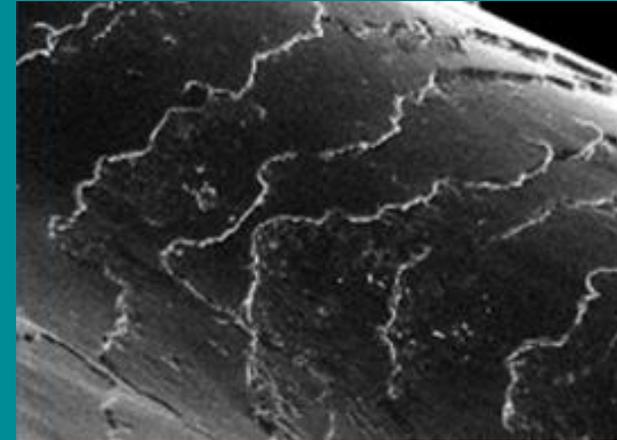
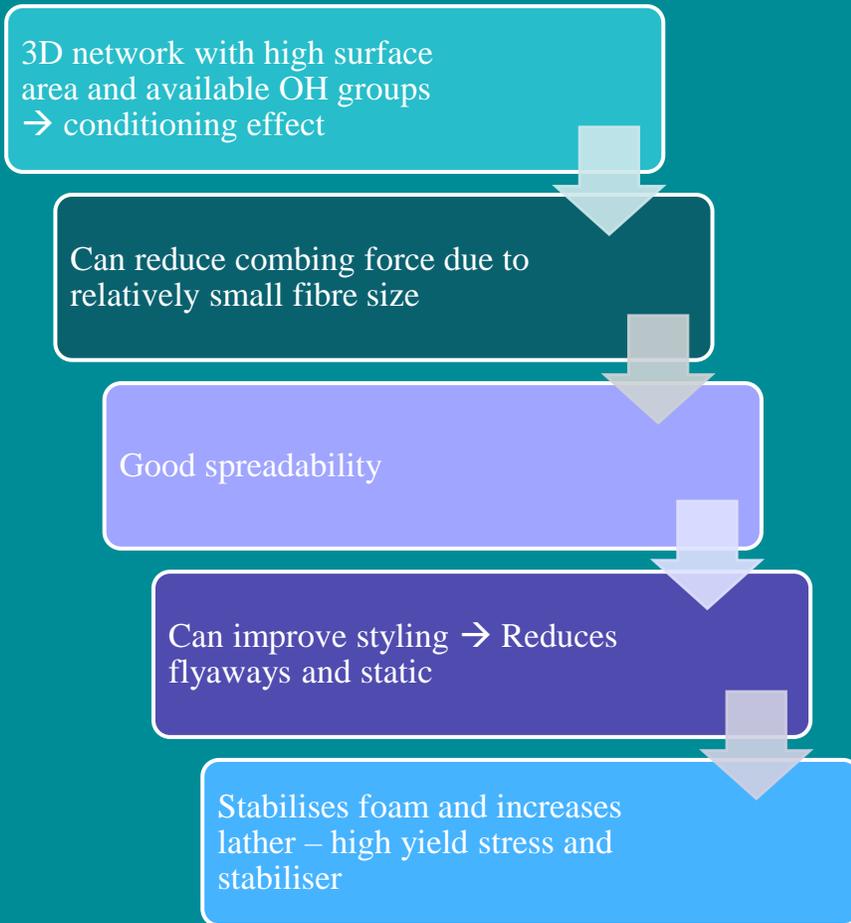
Foaming capacity on hair strands

With Valida, there is more creamy foam with *good hold* on hair strand

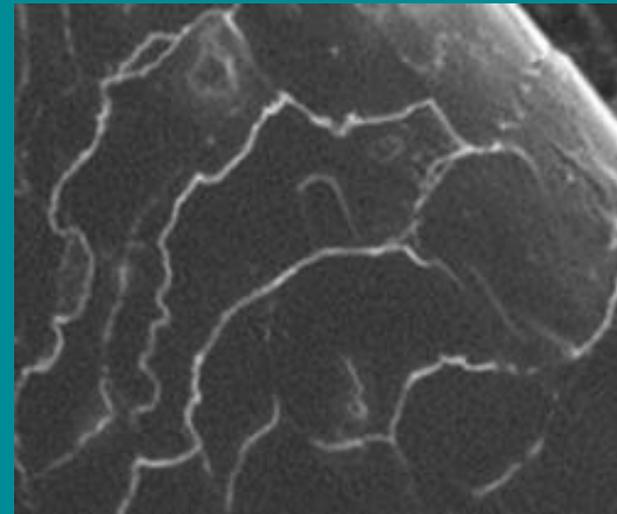


Without Valida, there is *very little foam* on hair strand

Valida in haircare

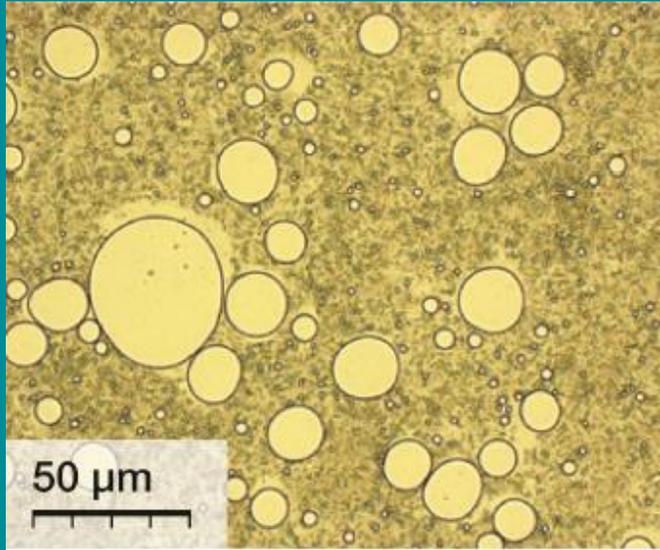


Washed with shampoo



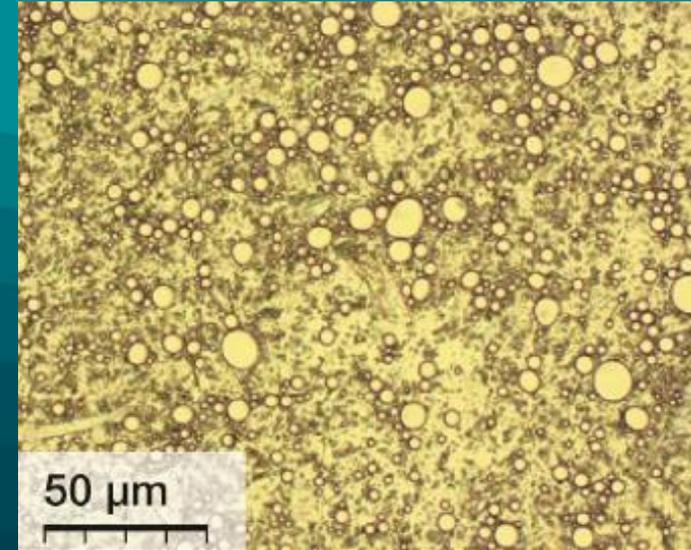
Treated with conditioner containing
0.1% actives Valida S+

Suspend oil in water droplets



5% o/w emulsion with no Valida

Only Valida, no surfactant!



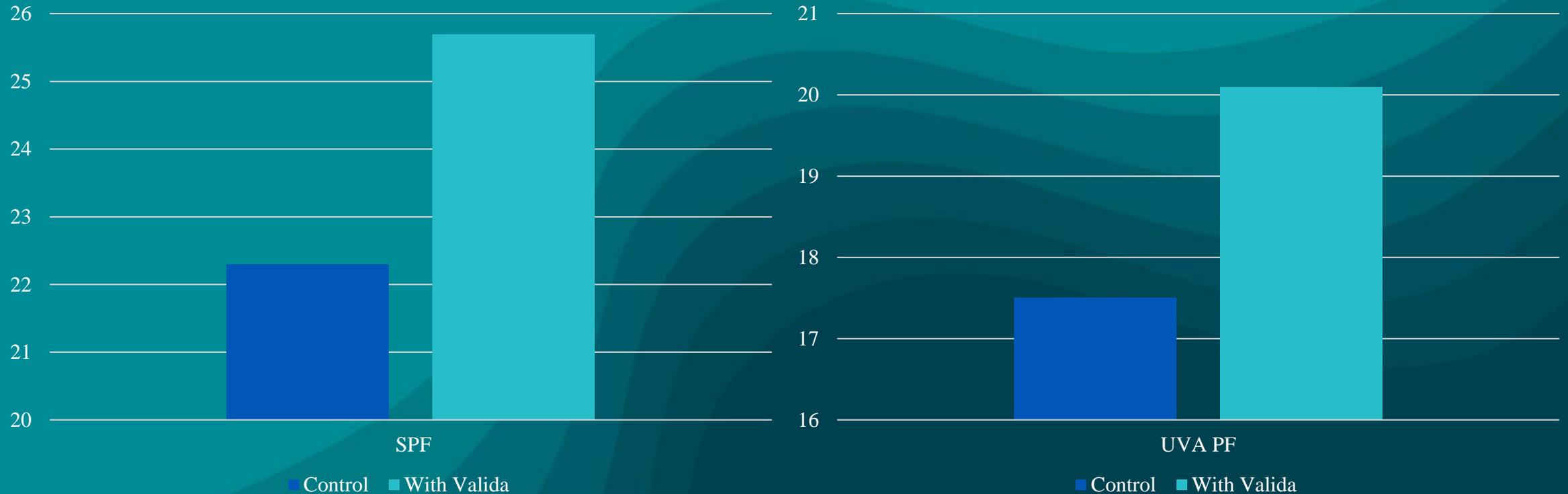
5% o/w emulsion with 5% Valida S+

*Valida can help to suspend low oily phase alone depending on polarity of oil

- Boosts the SPF of physical and hybrid UV filter sunscreen
- Improves spreadability leaving no white caste
- Creates lightweight, silky product that is not greasy!
- Increases hydration due to excellent water retention
- Anti-drip due to thixotropic nature → sprayable



Naturally boosting SPF and UVA PF – Mineral & chemical hybrid sunscreen



0.4% active concentration Valida boosts SPF by ~20%. Formulation available upon request.
In-vivo studies also available



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Valida is very versatile!

pH range 3-10

Stable against electrolytes

Cold processable³⁴

Valida grades



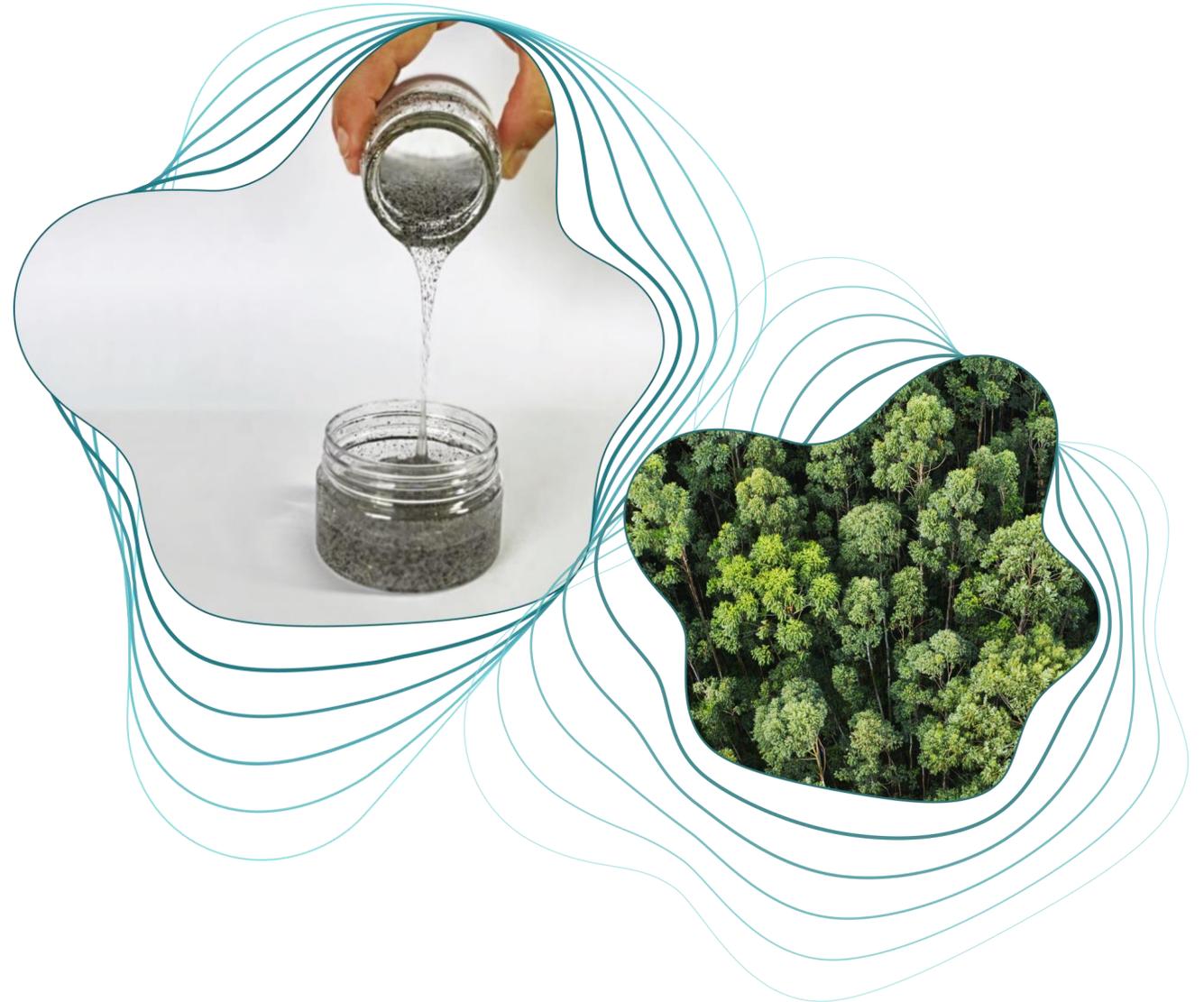
Products are preserved, COSMOS grades are also available.



Introducing.... Valida T!

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- ✓ Stabilise and suspend active ingredients in *transparent* formulations, comparable to carbomer
- ✓ Non-tacky, fresh velvety skin-feel
- ✓ Synergistic effect with Xanthan Gum while improving the skin-feel
- ✓ Easy to use
- ✓ Sourced from sustainably-managed forests



Thank you!

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Visit booth 1X100 at InCosmetics Paris

Contact Kulvinder Kaur for more information

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