



Quiz!

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What's in the bottle on the right?

- No clue?
- Particles, water and thickener?
- Particles, water and stabiliser?
- Opacifier, particles, water and thickener?

Beads...

Water...

Valida...?



Geoffrey Stijfs – Technical Sales Manager
Sappi BioTech

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Valida - Natural Cellulose as a Source of Inspiration in Personal Care

Sappi – a diversified woodfibre group

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- Global coverage, 12.600 employees;
- Core business = paper & pulp;
- High quality functional biomaterials;
- Leadership position in woodfibre technologies.

We believe building a thriving, sustainable world is a moral and business imperative, affecting each and every decision we make across all processes and product segments.

We are a diversified, innovative and trusted leader that unlocks the power of renewable woodfibre resources.



Dissolving pulp



Graphic papers



Packaging and specialty papers



Casting and release papers



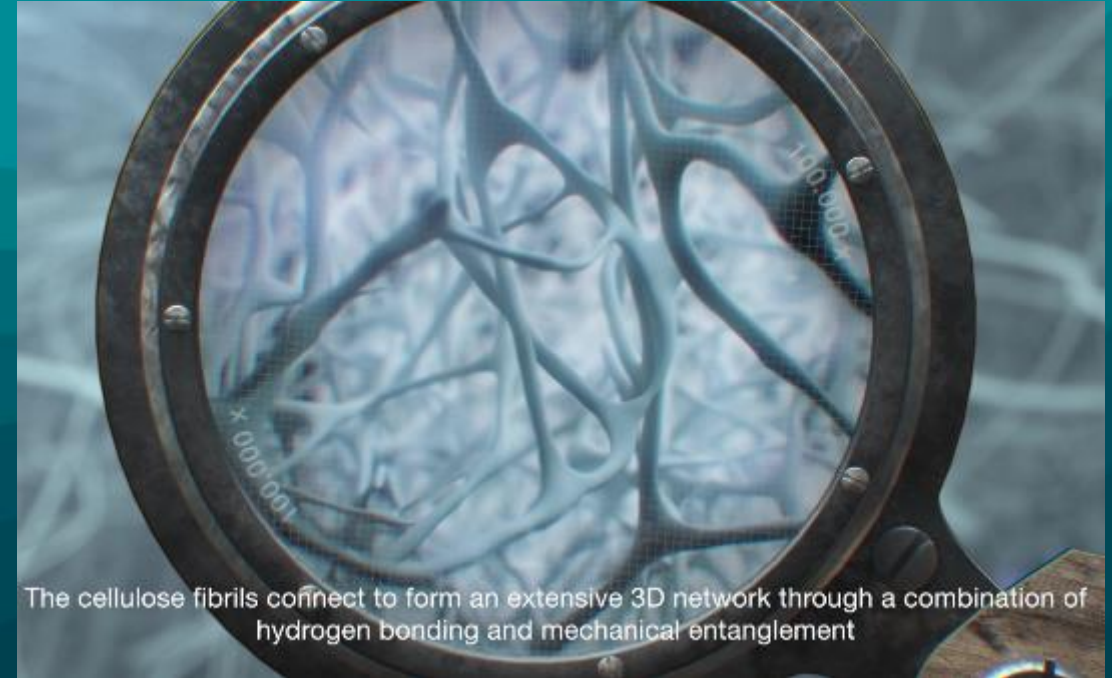
Fibrillated Cellulose



Forestry

Valida is Fibrillated Cellulose

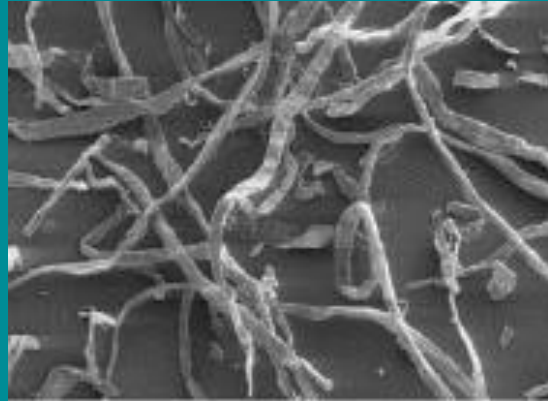
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Mechanical treatment >> 3-Dimensional Network

What sets Valida apart from other celluloses?

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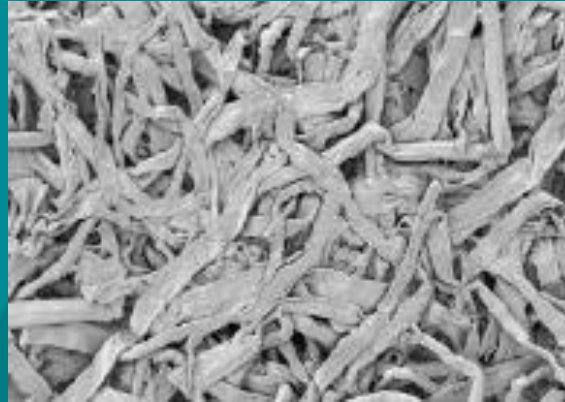
Cellulose powder through grinding:

- Soft focus, texturizing, lengthening, and volumizing;

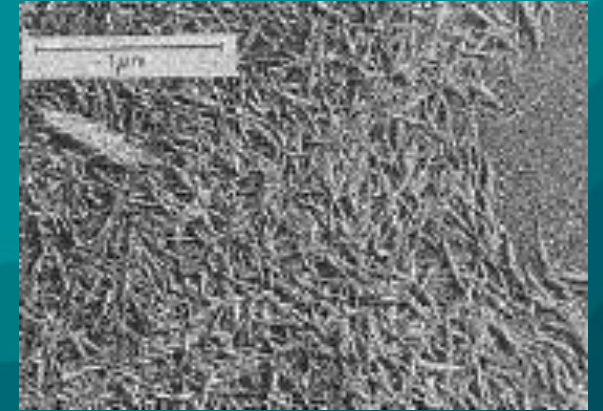
Grinding



Paper sheet (uncoated)



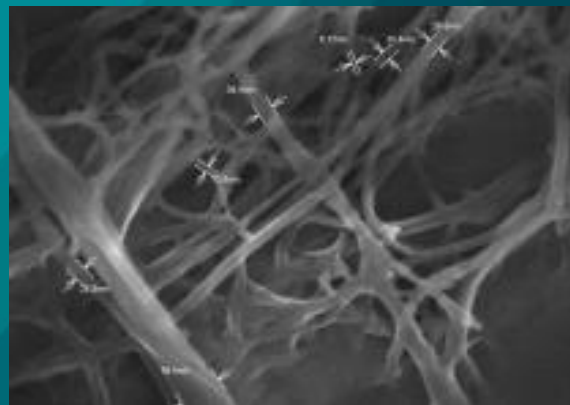
Acidic treatment



Microcrystalline Cellulose

- Texturizer, emulsifier, bulking agent;
- Short, needle like morphology;

Mechanical fibrillation



Fibrillated Cellulose

- Rheology modifier, stabiliser, additive booster
- **Network** morphology;

Different types of Cellulose

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Chemical cellulose

- Water soluble
- Transparent
- Effective thickening
- Sticky
- Instable against pH & Electrolytes
- Shear thinning

Natural cellulose

- Not soluble
- White
- Effective stabilizing
- Hydrating
- Stable in electrolytes & pH 4-9
- Thixotropic



Valida is a green and natural product

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renewable

non-toxic

bio-
degradable

natural

sustainable

bio-
compatible

Cellulose is the most abundant organic polymer on earth!

Picture: Sappi Lothair plantation, South Africa



The Value!

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**Stabilising & Boosting
additive efficiency**



Rheology Modification



Supreme Skin Feel

Stabilising

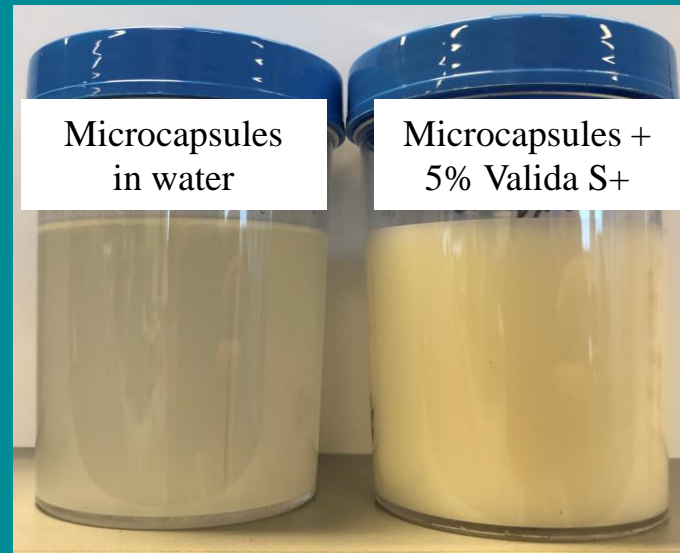
Suspended Particles



Perfume microcapsules

After 10 months!

12% capsules
5% Valida S+ @8%



Light particles

Zinc nanoparticles

After 10 months!

1,3% nanoparticles*
8,75% Valida S+ @8%



Heavy particles

***Formulating with Valida/particles/water is the hardest challenge for Valida!**

Rheology
Modification

Sprayable
Sunscreen

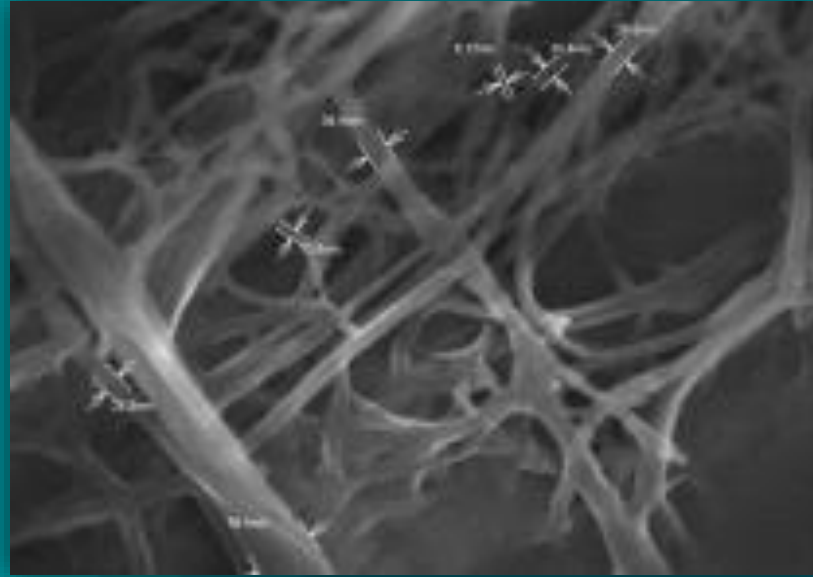


Supreme Skin Feel

Skin Cream



**1 Teaspoon dry Valida
= 2 tennis courts**



**Massive
Surface Area**

3% Fiber

Absorbs

97% water!



**Hydrophilic
nature**

Additive boosting - Pigments

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Giving a **BODY** to your colours



with 2% HEC



2% Valida S+, 3% gel

Additive boosting – Active particles (UV-filters)

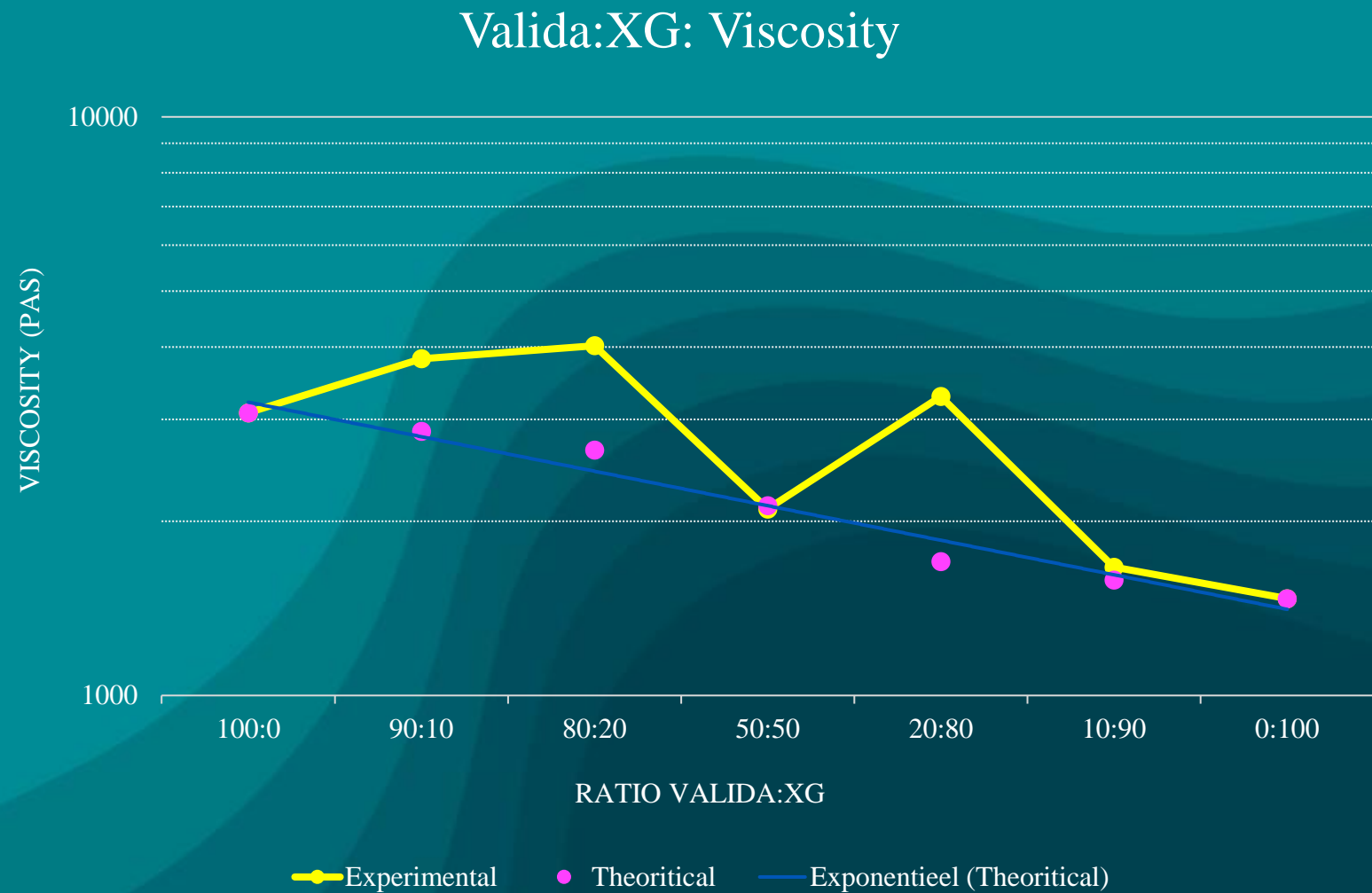
Test sample	SPF	UVAPF	Critical wavelength
Standard P2 (Lot no.:1902Q) (n=1)	17.06	-	-
Sunscreen No. 2 (n=1)	68.95	10.77	372.11

Without Valida

125% effectiveness!

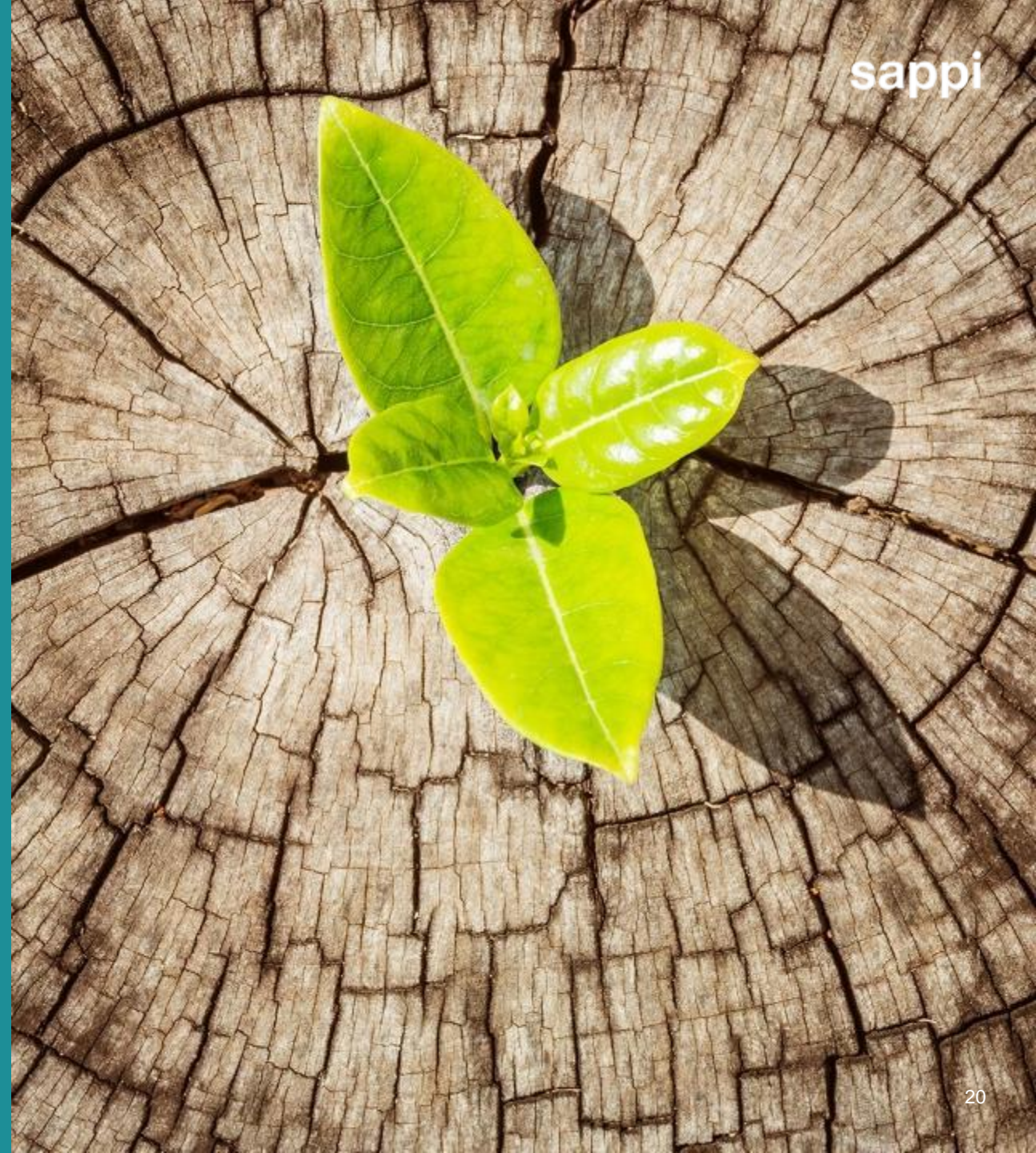
Test sample	SPF	UVAPF	Critical wavelength
Standard P2 (Lot no.:1902Q) (n=1)	17.06	-	-
Sunscreen No. 1 (n=1)	86.06	12.18	372.67

With Valida



Application Examples

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Shampoo & gradual tanning



- Stabilisation
- Flow modification
- Co-thickening



- Stabilisation of DHA
- Skin feel
- Co-thickening

Scrubbing handwash



- Stabilisation
- Skin feel
- Replace Acrylates

Nail Polish



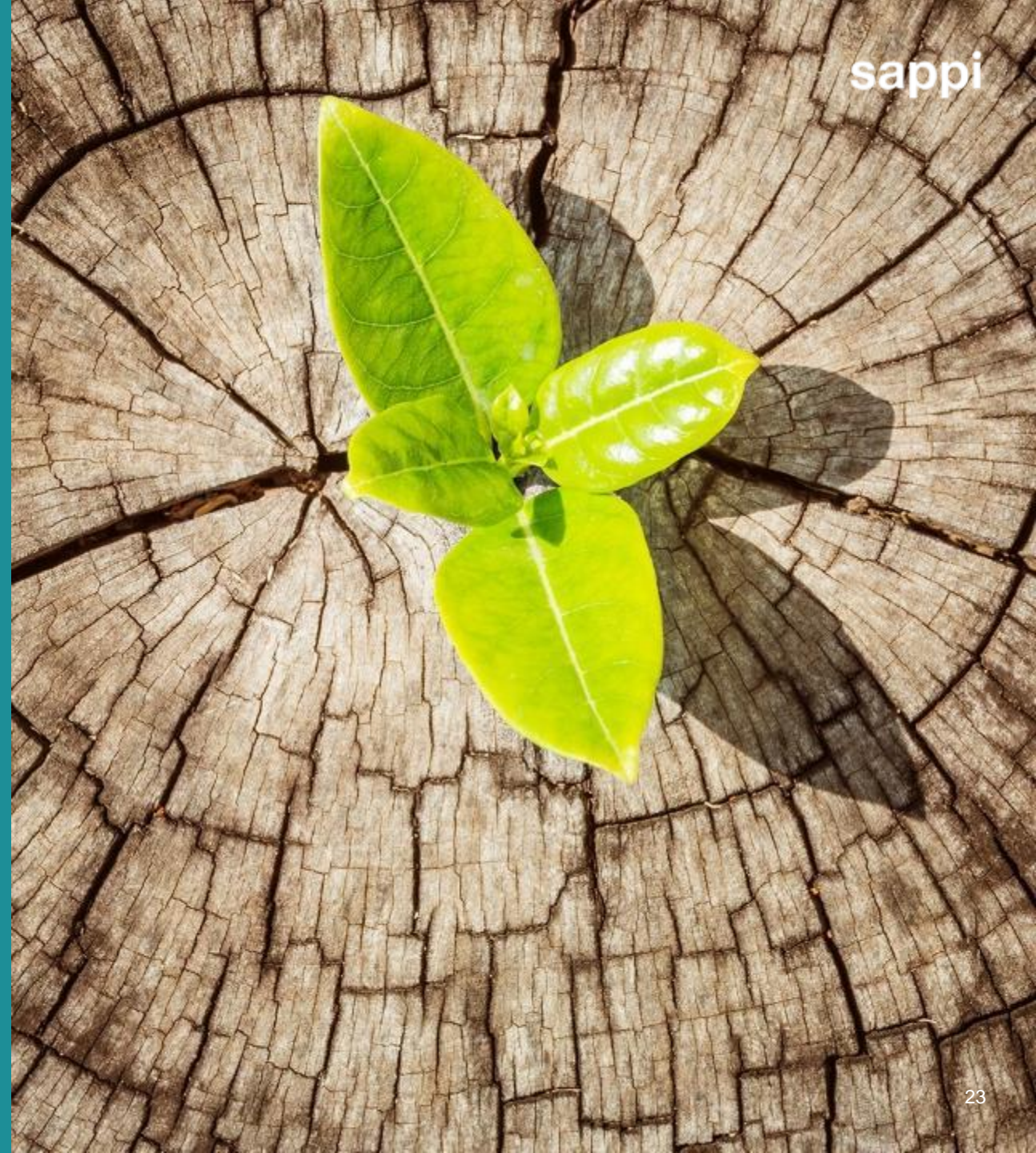
- Color development
- Scratch resistance

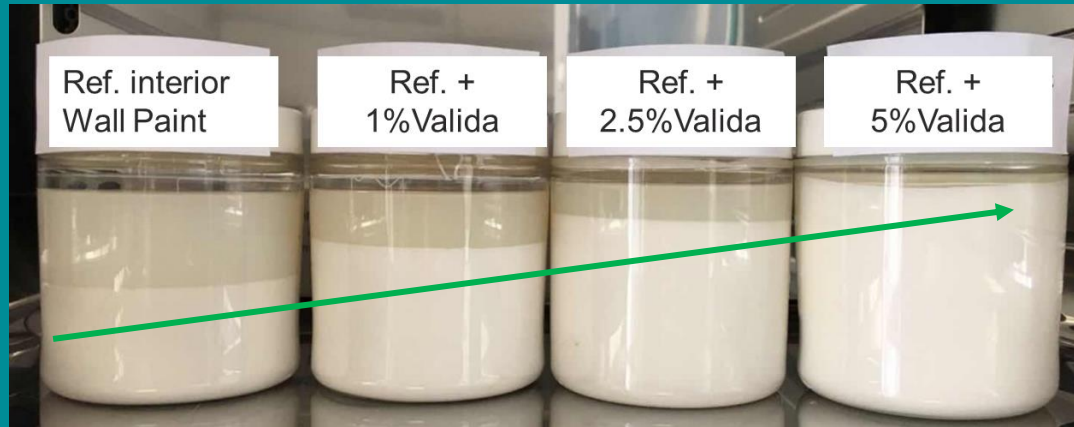


Commercial successes in skincare, body care, hair care, wound care, color cosmetics, sun care and hygiene applications. Data can be shared on request.

Closing Considerations

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1. Product Validation @ 0.4% active fibers!

2. Pre-disperse Valida before adding surfactants!



3. Use enough shear to activate the network!

Thank You!

Questions →



“Greatness from Small Beginnings.”



<https://www.sappi.com/cosmetics>

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