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Version: 2.0

## Valida S+ CS-3

### PRODUCT DESCRIPTION

Fibrillated cellulose in water suspension. Valida S+ CS-3 is derived from wood pulp that has been sourced from sustainably managed forests. The product is a multifunctional bio-based additive which can be used in aqueous systems, oil-in-water emulsions, serums, creams, as well as coloured formulations.

INCI name: Cellulose + Cellulose Gum

CAS No. 9004-34-6 and 9004-32-4

COSMOS-approval

### SPECIFICATION

Parameters	Value	Unit	Test method
<b>Product Form</b>	Gel		Visual
<b>Colour</b>	White		Visual
<b>Solid Content</b>	2.5 - 3.5	%	ESTM 9302
<b>Viscosity of 1.0% at 100s<sup>-1</sup>, 20 °C</b>	≥ 700	mPa.s	ESTM 5303
<b>pH of 1.0% suspension</b>	4.0 - 7.0		pH Meter
<b>Heavy metals as Pb</b>	<20	mg/kg	ESTM 3039-1
<b>Arsenic as As</b>	<2	mg/kg	ESTM 3039-1
<b>Total bacteria count</b>	<100	cfu/g	ISO 4833-2
<b>Total mold and yeast</b>	<100	cfu/g	ISO 21527-1
<b>Preservative</b>	Yes		

### ENVIRONMENTAL INFORMATION

Valida S+ CS-3 is biodegradable and harmless.

### INFORMATION FOR HANDLING Valida S+ CS-3

Valida S+ CS-3 Dispersion Guidance:

A good dispersion of Valida S+ CS-3 is critical to utilize its full benefits. We recommend to introduce Valida S+ CS-3 at an early process step, preferably dispersing Valida S+ CS-3 together with other fillers or pigments via grinding, steaming or shear mixing.

Table. Redispersion guideline for Valida S+ CS-3:

Dispersion Equipment	Speed (rpm)	Batch size (grams)	Dispersion time (min)	Vision check
<b>Dispermat Dissolver</b>	1000	400	15~30	A well dispersed suspension will show thickening effect with a creamy appearance.

## DOSAGE GUIDELINE

The optimal dosage of Valida S+ CS-3 in a formulation, depends on the required functionality, as well as the nature of the other ingredients in the formulation. Note that adding Valida S+ CS-3 will not result in an immediate thickening effect. The primary functionality of Valida S+ CS-3 is stabilization at low viscosity. A combination of Valida S+ CS-3 and a thickener is recommended when a 'gel-like' system is required.

Valida Grade	Composition (wt.%)	Valida S+ CS-3 /Total Formulation (g/g)	Active content (g/g Formulation)	The amount of water introduced to the formulation by Valida (g/g)
Valida S+ CS-3	3 ± 0.5% Cellulose 97 ± 0.5% Water	3%	0.09%	2.91%
		8%	0.24%	7.76%
		12%	0.36%	11.64%
		16%	0.48%	15.52%

## DELIVERY FORM

Packed in pouches (10 kg net weight), which will be transported in cardboard boxes (2 bags per box, 20 kg net weight) on pallets. Alternatively, Valida S+ CS-3 can be delivered in IBCs.

## STORAGE STABILITY

Recommended storage condition: ambient or lower, and avoid freezing and direct exposure to sunlight. Provided stored as advised, the product has a shelf life of 18 months from date of production. Once open, pouches containing Valida S+ CS-3 should be re-sealed to avoid moisture loss and used within 3 months.