

Starting point formulation – Whitening toothpaste – flawlessly white

Experience a next-generation oral care formula: Stabilized with high-purity **LAPONITE-XLG** together with cellulose for an exceptional texture and optimal distribution of active ingredients. The innovative hydrated-silica blend whitens your teeth effectively while protecting the natural enamel. Natural oils and flavour help ensure long-lasting fresh breath.

Formulation

Position	Component	INCI	Supplier	Function	Dosage (%)
A	Demineralized water	Aqua		Carrier	25.13
	LAPONITE-XLG	Lithium Magnesium Sodium Silicate (nano)	BYK	Rheological additive	1.00
	CMC FV-300	Sodium Carboxymethyl Cellulose	Changzu Wealthy Science (TER-Chemicals)	Thickener	0.40
B	Sorbitol 70 %	Sorbitol, Aqua	Cargill	Carrier	31.00
	Xylit	Xylitol	Danisco	Sweetener	4.00
	Glycerin 99.5 %	Glycerin	Sigma Aldrich	Moisturizer	10.00
C	Demineralized water	Aqua		Carrier	3.00
	Sodium fluoride	Sodium Fluoride	VMP Chemiekontor	Dental caries prophylaxis	0.22
D	PlantaCare 818 UP	Coco Glucoside	BASF	Surfactant	3.00
	Amisoft LS 11	Sodium Lauroyl Glutamate	Ajinomoto	Surfactant	1.00
	Zeodent 116	Hydrated Silica	Evonik	Whitening agent	6.00
	Zeodent 153	Hydrated Silica	Evonik	Abrasiva/thickener	9.00
	Spherilex 148	Hydrated Silica	Evonik	Whitener/dentil tubuli active	3.00
E	Optamint SY291828 (206768)	Aroma	Symrise (Th.Geyer)	Aroma	0.50
	Spearmint oil	Mentha Viridis Leaf Oil, Carvone, Limonene, Menthol	Henry Lamotte Oils GmbH	Aroma	0.70
	Lemongras oil	Cymbopogon Citratus Leaf Oil, Citral	Henry Lamotte Oils GmbH	Aroma	0.05
	Cosphaderm dicapo natural	Caprylyl Glycol, Propandiol, Glyceryl Caprylate	Cosphatec	Multifunctional	1.00
F	Cocos oil	Cocos Nucifera Oil	Gustav Heess GmbH	Antimicrobial	1.00
Total					100.00

Instructions (manufacturing procedure)

- Prepare phase B and C as a premixes in separate beakers.
- Add demineralized water into the main beaker and adjust the rest of phase A slowly while stirring (IKA wingstirrer, 800 rpm, 5 min).
- Add the premix of phase B while stirring (IKA wingstirrer, 800 rpm, 20 min).
- Add the premix of phase C while stirring (IKA wingstirrer, 650 rpm, 5 min).
- One after the other add the materials of phase D (IKA wingstirrer, 650 rpm, 20 min).
The surfactants have to be dissolved completely before adding the silicates step by step.
- Add the ingredients of phase E while stirring (IKA wingstirrer, 650 rpm, 5 min).
- Add phase F and stir a short time (IKA wingstirrer, 650 rpm, 1 min).
- Homogenize with Ultra Turrax (6.000 rpm, 1 min).
- Measure the pH-value. It should be in range 6.0–7.0.
- Measure it again after 24 h. It should be in range 6.5–7.5.
- Fill into packaging.

LAPONITE-XLG is a synthetic phyllosilicate-based rheology additives for aqueous systems. It provides excellent anti-settling properties and good storage stability.



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