



Frametime®

A Natural Cold Emulsifier

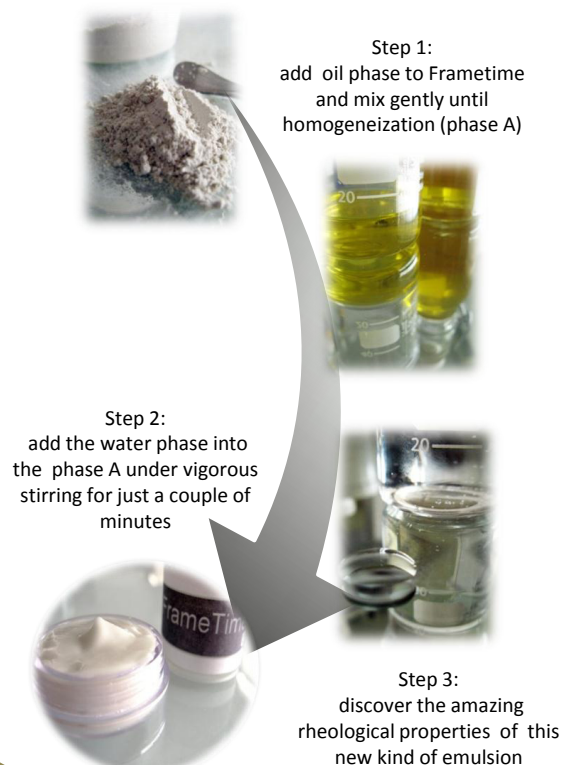


EPHYLA SAS

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Formulation: energy saving process

- Emulsification using Frametime is a very **simple process**.
- Frametime based emulsification method requires **no additional heat source**.



Classic emulsion

Hot Emulsification Process*

Energy
Consumption
~40 kW/h

High Carbon
Dioxide Emission

Time consuming
(~2h)

FrameTime® emulsion

Cold Emulsification Process*

Energy
Consumption
~0,4 kW/h

Low Carbon
Dioxide Emission

Fast Process
(~15min)

Cost and environmental Impact

*400 kg batch

Frametime®

a Natural Cold Emulsifier

EPHYLA
Natural Active Design



Function: cold emulsifier for O/W type emulsion

Cosmos, Ecocert standard availability

Available forms: powder preservative-free

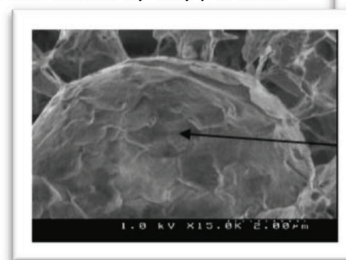
Identity Card

Main Benefits & Grades

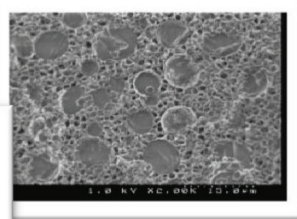
- Pickering emulsion obtained using an organic-modified clay: Frametime®. The hybrid material forms a layer preventing the coalescence of oil droplets
- 3 grades available:
 - Frametime CX**
 - Natural emulsifier without surfactant.
 - Cold technology for creams, make-up and opaque shampoo – shower gels
 - Frametime CXG**
 - Natural emulsifier
 - Cold technology for make-up, creams, lotions and all kind of emulsified product
 - Frametime CHA**
 - Hyaluronic acid pre-functionalized natural emulsifier
 - Cold technology for make-up and creams
- Higher dispersability of Pigment and active ingredients
- Biomolecules protection
- Rheological modifier

Characterization

Freeze-fracture SEM images * of homogeneous emulsion droplets surrounded by clay particles



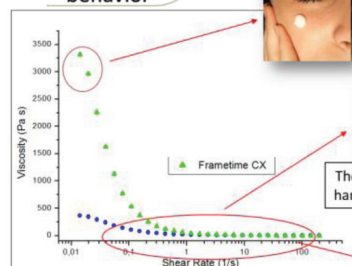
* LVMH's properties, all rights reserved



Oil droplet covered by clay particles

- Whether a cream will have a good skin feel depends on several rheological factors.

Shear Thinning behavior



❖ A high viscosity is desirable when removing a cream from the jar and at the start of application



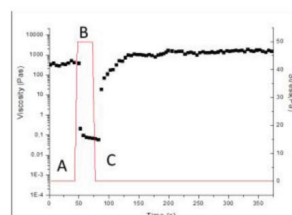
❖ **Primary skin feel** is the sensation occurring when an emulsion is initially applied to the skin. This is associated with small forces needed to make the emulsion flow.

The universal rheometer: the hands while applying a cream



❖ Pumpability: packaging optimization
❖ Preservative reduction

Structure Breakdown and Build Up



❖ Most cosmetic emulsions are deformed when a small amount is removed. How quickly the structure is restored can be crucial



- ❖ A: At rest
- ❖ B: The amplitude is suddenly increased (100-fold over the LVR): structure breakdown
- ❖ C: The amplitude is returned into the LVR: structure build-up