

HYDROPHOBIC BEHAVIOUR OF WAX EMULSIONS



WAX EMULSIONS

Stable mixtures of one or more waxes emulsified in water. These waxes can be natural or synthetic.

According to their chemical properties, provided by the emulsifying method, they are classified as **non-ionic**, **anionic** and **cationic**; although **compatible mixtures** can also be used.

Wax emulsions are generally **free of organic solvents**, with only **water as a vehicle**.

USAGE

They are **very versatile products** with a **large number of applications**.

For example: industrial additives for paints, inks and varnishes, floor treatment, textiles, leather, footwear, wood finishes, car care products, etc.

HYDROPHOBIC STUDY

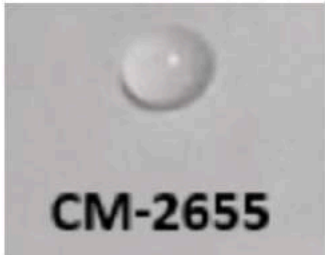








Comparison of the hydrophobic behaviour of Concentrol **EMULTROL CM-2655**, **EMULTROL CM-2469 SPL** paraffin wax emulsions with a competitor's product

Product	Wax melting point (C°)	% solid	Emulsifier	pH
EMULTROL CM-2655	59	60	Anionic/non-ionic	9,5
EMULTROL CM-2469 SPL	66	40	Anionic	10
Competencia	51	63	Anionic/non-ionic	9

Process of evaluating the **hydrophobic behaviour** of each product:

- One coat of each of the emulsions (30 μm wet) is applied to paper and left to dry completely (minimum 12 h at room temperature).
- A drop of water is then dropped on top of this layer, so that **the angle of wetting can be observed**. See the results on the next slide.

HYDROPHOBIC STUDY

EMULTROL CM-2655	EMULTROL CM-2469 SPL	Competitor
1 minute		
 CM-2655	 CM-2469 SPL	 Competencia
2 minutes		
 CM-2655	 CM-2469 SPL	 Competencia
10 minutes		
 CM-2655	 CM-2469 SPL	 Competencia

The results obtained show that the drops on the **EMULTROL CM-2655** and **EMULTROL CM-2469 SPL** products exhibit a greater contact angle than the drop on the competitor's product.

This behaviour, called the **lotus effect**, shows a **higher hydrophobicity** in the first two products than in the last one.