

Syntran® Opacifiers

For Premium Appearance, Whiteness, and Brightness

Syntran Polymeric Opacifiers have been specifically designed for use in personal care and household products. They impart a milky white appearance in products such as shampoos and conditioners, bath and shower gels, liquid hand soap, laundry and dish detergent, fabric softeners, carpet cleaners and other household cleaners.

They deliver **improved performance** and **convenience** at a **lower total formulation cost**.

Syntran Opacifiers offer formulators increased flexibility to produce a superior end product with a balance between appearance and cost. They are water based styrene/acrylic emulsions that offer broad utility in anionic, cationic and amphoteric solutions and emulsions. They also exhibit excellent formulation compatibility, consistency of appearance and end product stability... Syntran 5900 is stable even in acid formulas.

Benefits of Syntran Opacifiers

- Premium Appearance/Quality
- Improved Brightness & Whiteness
- Significantly Reduced Use Levels
- Excellent End Product Stability
- Pourable Liquids
- No Pre-dispersion Required
- Preservative and APE Free
- Broad Chemical Compatibilities



Typical Physical Properties

	Syntran 5900	Syntran 5903	Syntran 5904	Syntran 5905
INCI Name:	Polystyrene	Styrene/Acrylates Copolymer	Styrene/Acrylates Copolymer	Styrene/Acrylates Copolymer
% Solids	35	35	40	40
Ionic Nature	Anionic	Anionic	Anionic	Nonionic
pH	2.8	7.0	2.5	2.5
Appearance	White Dispersion	White Dispersion	White Dispersion	White Dispersion
Viscosity (mPa.s)	< 100	< 100	< 100	< 100
Preservative	Yes	Yes	None	None
APE Content	None	None	None	None
Benefits	Effective in Acid Systems	Safer to Handle	Effective in Anionic Systems	Effective in Most Systems



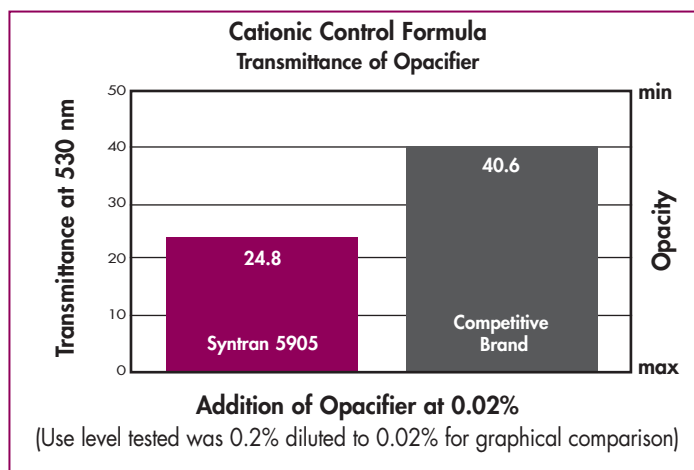
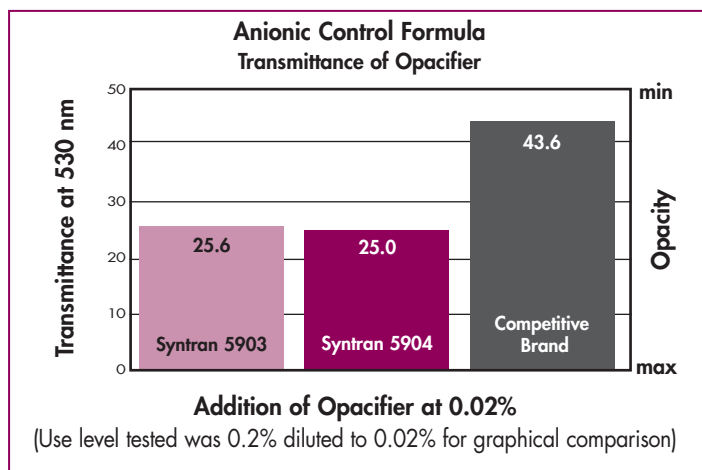
Selection Criteria – Syntran Opacifiers

Personal Care Opacifier Selector Guide

Application	5903	5904	5905
Bath and Shower Products	✓	✓	
Shampoos	✓	✓	
Liquid Hand Soaps	✓	✓	
Hair Conditioners			✓
Cationic Systems			✓
Skin Lotions	✓	✓	✓
Nonionic Systems	✓	✓	✓

Household and I & I Opacifier Selector Guide

Application	5900	5904	5905
Industrial Strength Hand Soaps	✓	✓	
Liquid Dish Detergents	✓	✓	
General Cleaners	✓	✓	
Carpet Cleaners	✓	✓	
Fabric Softeners			✓
Laundry Detergents	✓	✓	✓
Toilet Bowl Cleaners	✓		



Salt Tolerance: Syntran Opacifiers are very tolerant of high electrolyte concentrations. All four are compatible with NaCl concentrations greater than 8%. Syntran 5903 shows the best tolerance for these monovalent ions.

Formulating with Syntran Opacifiers

Syntran Opacifiers should preferably be added at the end of the manufacturing cycle (i.e. after final adjustment).

To prevent potential "shock", Syntran opacifiers can be pre-diluted with soft or deionized water at a range of 1 part to 3 - 4 parts water prior to use. The addition of opacifier to the base product needs to be made very slowly under good agitation.

Only a small amount of opacifier is required to opacify most products and to achieve the desired effect in formulation. As little as 0.1% up to 1% is all that is needed.

Opacifiers Testing

Opacifiers should always be checked for stability on all opacified products. To define the stability of a product, 4 tests are performed:

- at room temperature
- at 40°C
- at 5°C
- 3 freeze/thaw cycles

Stability should be observed over the desired period of time.

Transmittance measurements show Syntran Opacifiers to be more effective than commercial opacifiers used for reference. Measurement was calculated using a UV-visible spectrophotometer at a wavelength of 530 nm.



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