

SYNTHOMER™ NX 795

Enhancing latex products



SYNTHOMER™ NX 795 coalescing agent for latex products

- Promotes uniform film formation with optimal properties
- Universal in all latex systems
- Easy to incorporate
- Reduces minimum film-formation temperature
- Non-VOC and non-HAP provides cleaner air and safer handling

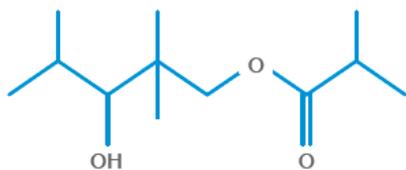
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Superior Properties

SYNTHOMER™ NX 795 is an effective coalescing agent for latex formulations such as acrylic dispersions, styrene acrylics and vinyl acetate co-polymer dispersions. This ester alcohol effectively reduces the minimum film-formation temperature (MFFT), and provides further benefits in end-product properties including higher coating gloss, increased film integrity, reduced film porosity and less cracking.

Universal

Incorporation of SYNTHOMER™ NX 795 results in optimal paint performance even at lower drying temperatures. NX 795 also facilitates the use of hard latexes at low temperatures, broadening the range of practical application temperatures in many latex paint formulations. NX 795 does not dissolve in water, but is readily absorbed by latex particles making it an effective film-forming additive even when applying paint on porous substrates and in moist environments



Isomeric mixture of 2,2,4-Trimethylpentane-1,3-diol monoisobutyrate
CAS no. 25265-77-4
EINECS no. 246-771-9

SYNTHOMER™ NX 795 physical properties

Density	0.947 kg/dm ³
Solubility at 20°C	
- in water	(insoluble)
- water in NX795	Max 0.10 weight%
Evaporation rate	0.02 (BuAc = 1)
Refractive index at 20°C	1.4423
Vapor pressure 293.15 K (20°C)	<0.01 kPa
Boiling point at 101.3 kPa	257°C
Freezing point	-50°C

The following semi-gloss acrylic paint formulation demonstrates the effect of SYNTHOMER™ NX 795 on the finished product:

The semi-gloss acrylic paint formulation

No.	Component	Weight %	
1	Glycol	2.56	Pigment Grind
2	Water	3.42	
3	Amine	0.21	
4	Dispersing agent 1	0.21	
5	Dispersing agent 2	0.32	
6	Levelling aid	0.43	
7	Pigment grinding vehicle	3.32	
8	White TiO ₂ pigment	24.81	Let-Down
9	Acrylic co-polymer dispersion	62.79	
10	Silicone defoamer	0.86	
11	Associative thickener	1.07	
	Total	100.00	

Solid Content ca. 55%, Viscosity ca. 10,000 mPas, Gloss 60° ca.50



Reducing MFFT

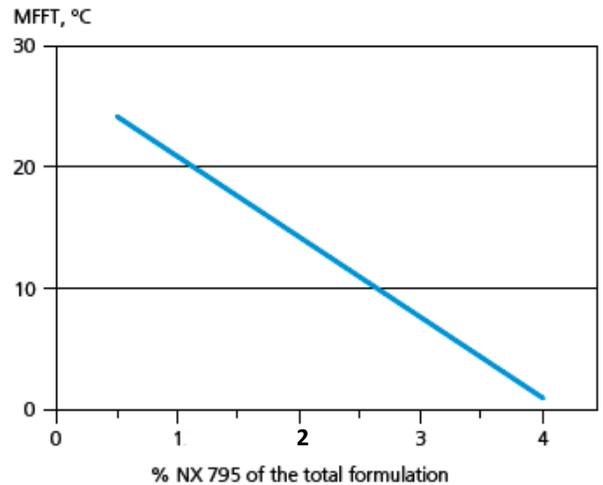
SYNTHOMER™ NX 795 is an extremely effective additive for decreasing the minimum film-formation temperature of latex paints. A substantial reduction in MFFT can be achieved by adding small amounts of SYNTHOMER™ NX 795 to paint. In most cases a suitable addition level is 5–10%, based on latex solids. The harder the polymer, the higher the level needed; possibly up to 20% for polymer solids. Ensuring the optimal performance of a latex paint requires just the right amount of coalescing aid. The MFFT of the latex dispersions and the efficiency of the coalescing aid to decrease the MFFT are important in determining the correct amount of SYNTHOMER™ NX 795 to add. One should also take into account the conditions under which the paint is applied. The MFFT for indoor applications is generally 0°C to 5°C, but the MFFT for outdoor applications is often considerably lower.

Improving hardness

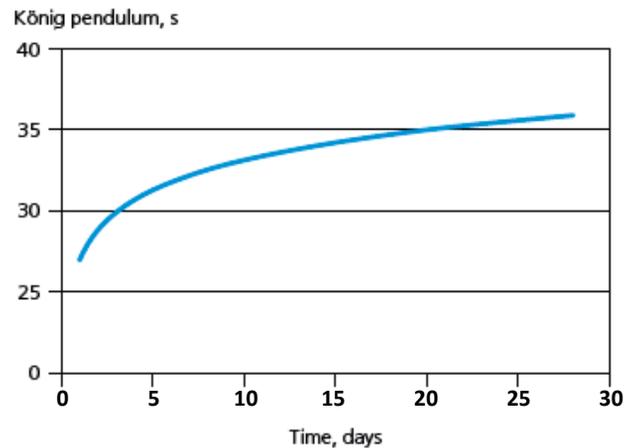
SYNTHOMER™ NX 795 contributes to good hardness development in paint film at normal levels of addition. Excessive amounts of coalescent should be avoided as this will lead to retarded hardness development.



The effect of SYNTHOMER™ NX 795 on film formation temperature



Hardness development during drying of an acrylic latex paint formulation containing 3% SYNTHOMER™ NX 795



Effective additives
for ideal properties

Proven pH & viscosity stability

Essential requirements for any high-quality paint product are pH and viscosity stability. Hydrolysis of the coalescing agent would reduce paint performance but an experiment demonstrates the stability of SYNTHOMER™ NX 795. SYNTHOMER™ NX 795 is a hydrolytically stable coalescing aid that is hardly affected by the alkaline nature of typical latex formulations. Extremely high pH values (>10) are however not recommended.

In a stable paint, the paint viscosity is expected to remain virtually constant over the time of storage. In this test, paint samples were stored at 23°C and 50°C. Viscosity was measured at specified intervals by a Brookfield low shear viscometer. Negligible change of the paint viscosity is a good indication of the hydrolytic resistance of SYNTHOMER™ NX 795 coalescing agent.

Safer performance with environmentally friendly paint

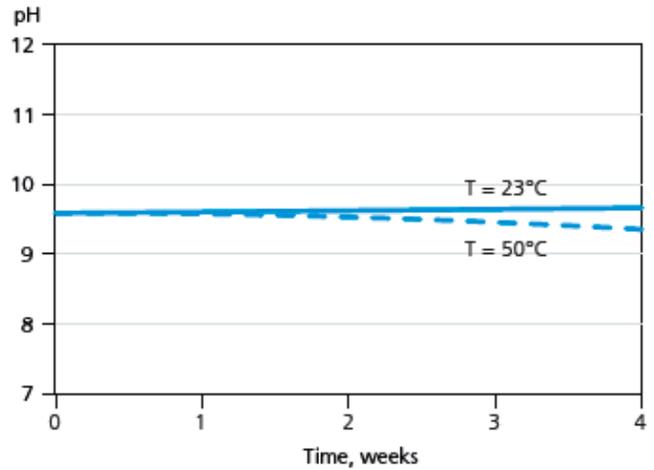
Thanks to its properties, only very low concentrations of SYNTHOMER™ NX 795 are emitted during the use of paints containing NX 795 as the coalescing agent. SYNTHOMER™ NX 795 is not classified as VOC material in Europe (1999/13/EC and 2004/42/CE) and not as HAP in the U.S. (Clean Air Act 1990). SYNTHOMER™ NX 795 is not classified as a VOC per China State Environmental Protection Agency. The high boiling point, >250°C, and low vapor pressure, <0.01 kPa at 20°C, indicate low volatility of the SYNTHOMER™ NX 795 coalescing aid.

Ensuring optimal results

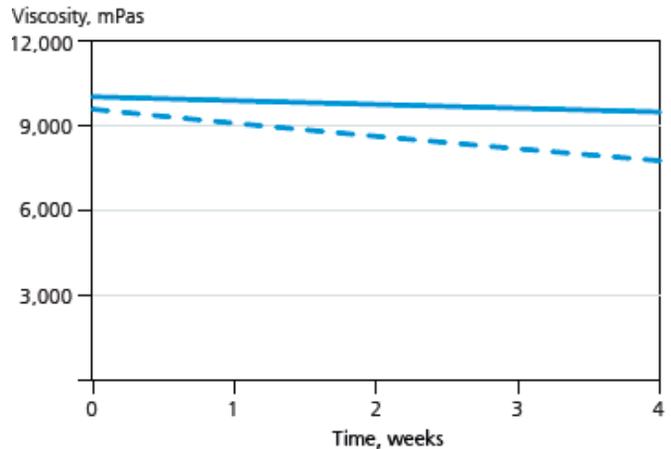
SYNTHOMER™ NX 795 can be easily incorporated into a paint formulation during the last stages of paint manufacture. Once the coalescent is added it is recommended to allow the paint to stabilize overnight prior to application or testing.

We welcome your questions. More detailed information and specifications of each product are available on www.synthomer.com or through your Synthomer sales representative.

Change in pH during paint storage with an addition level of 3% SYNTHOMER™ NX 795



Change in viscosity during paint storage with an addition level of 3% SYNTHOMER™ NX 795





Leading in emulsions and speciality polymers

Synthomer is one of the world's leading suppliers of emulsion and speciality polymers supporting leadership positions in many market segments including coatings, construction, technical textiles, adhesives, paper and synthetic latex gloves. The company has its Head Office in London (UK) and provides customer focused services from operational centers in Harlow (UK), Marl (Germany), Kuala Lumpur (Malaysia), Shanghai (China) and Dubai (UAE). In June 2016 we have acquired the Monomers, Dispersions and Powders business (MDP) from Hexion with dedicated production, sales and customer service facilities in North America, Europe and South East Asia.

In March 2017, we acquired the coalescing agents and Butyl Ethyl Propanediol (BEPD) business from Perstorp Oxo Belgium AB. The newly acquired businesses significantly improve our footprint to a number of speciality markets which we will continue to serve through a strong network of local technical service and sales branches, supported by regional application development and production in our key markets. We deliver the right formula, globally, individually.

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