

NX 795

Enhancing latex products



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

The elements of success

You need a partner who can see the big picture when it comes to your products, your processes and your customers. Our experience and expertise in the special niches of organic chemistry, process technology and application development are at your service, providing you with a complete chain of solutions to enhance quality and profitability at every step.

Our versatile intermediates, an essential element of your winning formula, are specifically designed to add value and enhance end-product performance. Your solution to meeting the increasing demands for safer, lighter, more durable and environmentally friendly end-user products, begins here.

Innovation in everything we do

Innovation distinguishes every aspect of our business process. Developing smarter and safer solutions creates real value in new chemical applications. Focused innovation instills leadership and purpose in our business activities, improves internal processes and increases application and product competitiveness.

Delivering our promises globally

Our global presence provides you with reliable solutions and processes, consistent high quality, security of production and supply and delivery with precision. This commitment also means rapid response when product or application support is required and the very best in technical support.

Putting the care into chemicals

We take our responsibilities to heart and are committed to attentive, sustainable business practices. We minimize risks for our customers, our employees and the environment by working proactively to ensure safe products and processes.



Enhancing latex products

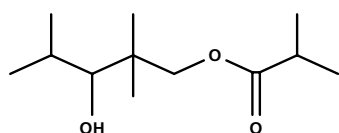
Superior properties

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 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.

NX 795 properties and performance



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

Typical properties

Density	0.947 kg/dm ³
Solubility at 20 °C	
– in water	(insoluble)
– water in NX 795	0.9 Weight %
Evaporation rate	0.002 (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	255 °C
Freezing point	–50 °C

The following semi-gloss acrylic paint formulation demonstrates the effect of 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



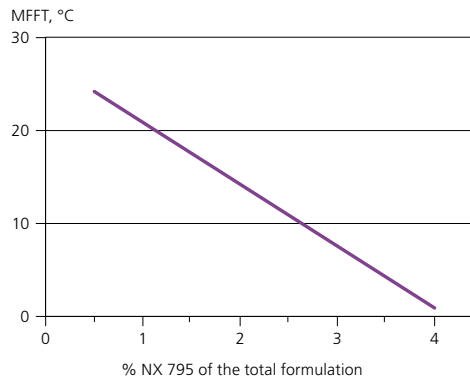
Reducing MFFT

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 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.

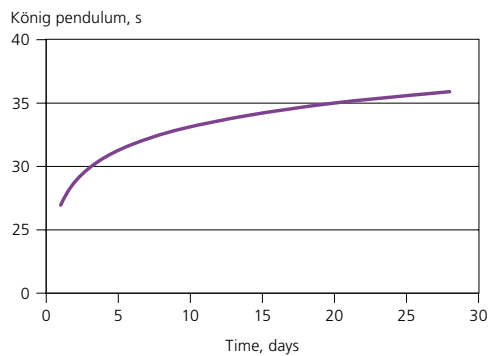
Ensuring the optimal performance of a latex paint requires just the right amount of coalescing aid. The MFFT of the latex dispersions and the efficiency of the coalescing aid to decrease the MFFT are important in determining the correct amount of NX 795 to add. One should also take into account the conditions 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

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 NX 795 on film-formation temperature



Hardness development during drying of an acrylic latex paint formulation containing 3% 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 NX 795. NX 795 is a hydrolytically stable coalescing aid that is hardly affected by the alkaline nature of typical latex formulations.

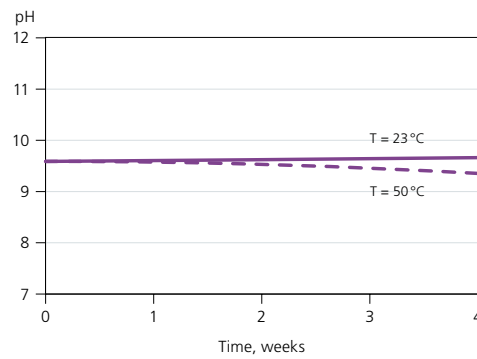
In a stable paint, the paint viscosity is expected to remain virtually constant over the time of storage. In this test, paint samples were stored at 23°C and 50°C. Viscosity was measured at specified intervals by a Brookfield low shear viscometer. Negligible change of the paint viscosity is a good indication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

Safer performance with environmentally friendly paint

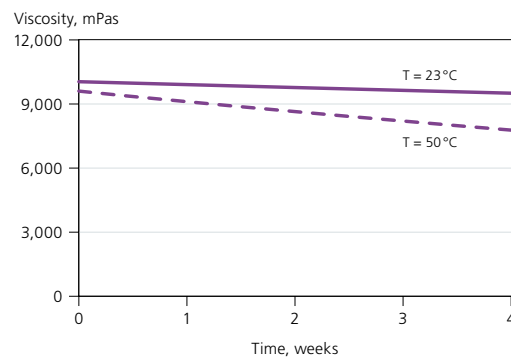
Thanks to its properties, only very low concentrations of NX 795 are emitted during the use of paints containing NX 795 as the coalescing agent. NX 795 is classified as non-VOC material in Europe (1999/13/EC and 2004/42/CE) and as non-HAP in the U.S. (Clean Air Act 1990). The high boiling point, >250°C, and low vapor pressure, <0.01 kPa at 20°C, indicate low volatility of the NX 795 coalescing aid.

Ensuring optimal results

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.

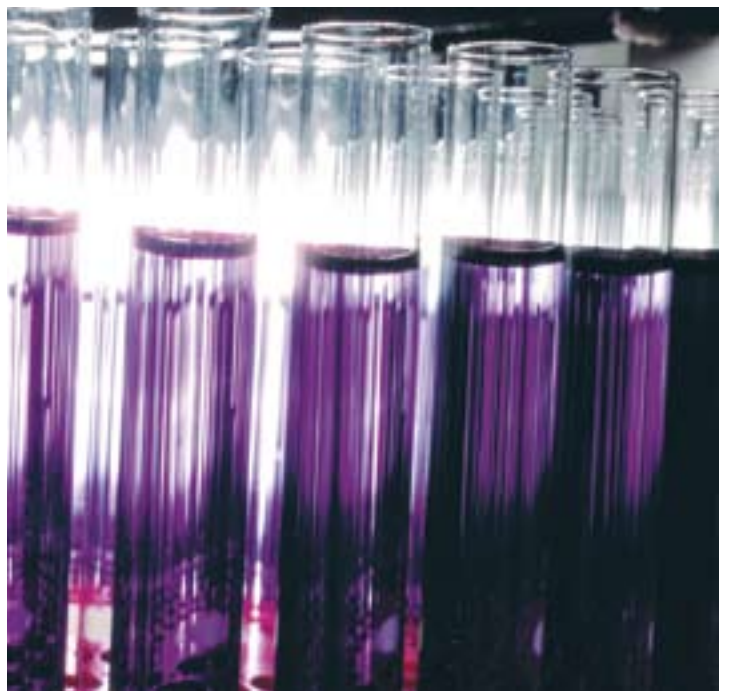


Change in pH during paint storage with an addition level of 3% NX 795



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

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





Your Winning Formula

The Perstorp Group is the world leader in several sectors of the specialty chemicals market. Few chemical companies in the world can rival its 125 years of success. Today we have a rich performance culture distilled from our long history and extensive knowledge in the chemical industry. That culture and knowledge base enables us to produce Winning Formulas for a wide variety of industries and applications.

Our products are used in the aerospace, marine, coatings, chemicals, plastics, engineering and construction industries. They can also be found in automotive, agricultural feed, food, packaging, textile, paper and electronics applications.

Our production plants are strategically located in Asia, Europe and North and South America and are supplemented by sales offices in all major markets. We can offer you a speedy regional support and a flexible attitude to suit your business needs.

If you want a chemical partner who can offer you focused innovation to enhance your product or application, which is delivered reliably and responsibly look no further. We have a winning formula waiting for you.