HEXION
Responsible Chemistry

Information Sheet

VeoVa™ 10 Vinyl Ester
Low Odor Latex for Interior Paints



Low Odor Interior Paints

Demand for Low Odor Interior Paints

There has been an increasing demand for low odor paint as consumers became more concerned about their health and well-being, and they have associated odor with harmful chemicals. In the meantime, low odor is a must for premium interior paints. All paint components must have a minimal contribution to the odor especially the latex, which is used at high percentages in premium quality paints.

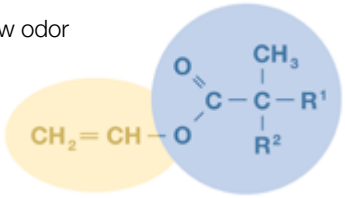
VeoVa Monomers Ideal for Vinyl Systems In Interior Paints

VeoVa Vinyl Ester Protects the Polymer Backbone

VeoVa vinyl ester provides a branched tertiary structure with bulky and hydrophobic hydrocarbon groups that protect the neighboring vinyl acetate from saponification.

Vinyl acetate/VeoVa vinyl ester copolymers or terpolymers key properties:

- Improved water and alkali resistance
- Optimum wet scrub resistance depending on stabilization
- Inherently pleasant odor, can be made very low odor



Low Solubility in Water

VeoVa vinyl ester is the most hydrophobic monomer as measured by solubility (see table below).

Monomer	Water solubility @ 20 °C (g/100mL)
VeoVa 10 vinyl ester (VV 10)	< 0.001
Butyl acrylate (BA)	0.16
Methyl methacrylate (MMA)	1.5
Vinyl acetate (VA)	2.5

Alkali Resistance

These below data show that vinyl acetate/VeoVa vinyl ester (VA/VV) copolymer has as good alkali resistance as the best commercial styrene/acrylics and better than commercial VA/Acrylic.

Alkali extractable of clear latex film (% m/m; in-house test method)

Commercial VA/Acrylic	Commercial Sty/Acrylic 1	Commercial All Acrylic	Commercial Sty/Acrylic 2	VA/VV Copolymer
5.6%	3%	< 3%	< 3%	< 3%

Low Odor VA/VeoVa Copolymer or Terpolymer

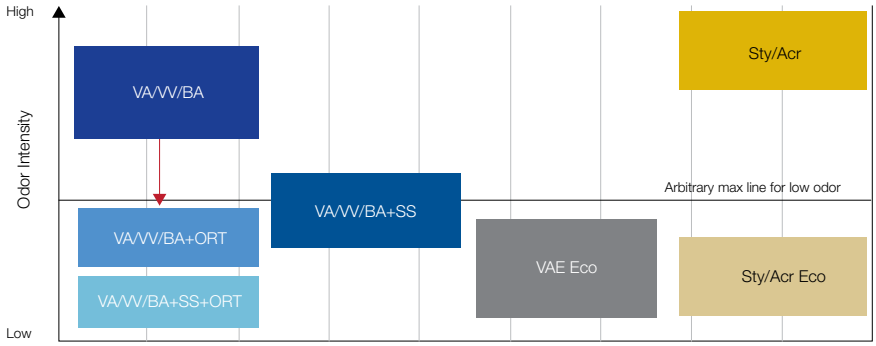
Wet Scrub Resistance

VA/VeoVa copolymer or terpolymer can be designed for optimum wet scrub resistance for a wide range of pigment volume concentration (PVC). The VA/VeoVa copolymer can be designed to achieve a very high wet scrub resistance.

Odor Reduction Technology in Vinyl Latex

The odor of a VA/VeoVa copolymer or terpolymer is inherently more pleasant and sweet than any other generic type of latex but due to the high standard for odor in the market today, it may need to be reduced. Using analytical methods and sniffing tests by an odor expert team, Hexion Versatics team identified a solution through an odor reduction technology (ORT) for minimizing odor while maintaining efficiency, on long-term storage. This methodology neutralizes the odor present in the latex. In combination with residual monomer reduction techniques, the odor of the VA/VeoVa copolymer or terpolymer can be reduced to easily meet the market need for low odor. For latex makers with steam stripping (SS) technology, this technology will bring down the odor level even further to the lowest levels in the market, as well as may improve production effectiveness. Relative odor comparison of commercial emulsions versus VeoVa monomer based emulsions treated with ORT is given in the graph below.

Relative Odor Comparison of Commercial Emulsions



Summary

VeoVa vinyl ester can be copolymerized with vinyl acetate to produce VA/VeoVa vinyl ester copolymers or terpolymer for premium quality interior paints. With the correct design of the formulation and polymerization technique, VA/VeoVa copolymers or terpolymers can be made to meet the lowest possible odor quality in the market, as well as provide premium performance properties such as wet scrub resistance, alkali and water resistance, excellent rheology characteristics and good to touch walls. With an easy post-polymerization technology, vinyl acetate/VeoVa vinyl ester copolymer or terpolymer can be made lowest odor to meet the market benchmark.

Contact Us

For more information, please contact your local Hexion sales representative, your distributor or our global customer service network.

Reach our Global Customer Service network at:

E-mail: service@hexion.com or enter a request on our website www.hexion.com under “contact us”

HEXION™
Responsible Chemistry

World Headquarters
180 East Broad Street
Columbus, OH 43215-3799

Please refer to the literature code HXN-760 when contacting us.

HXN-760 12/22