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(54) Title: LOW VOC MULTIFUNCTIONAL ADDITIVES TO IMPROVE WATERBORNE POLYMER FILM PROPERTIES

(57) Abstract: Low VOC multifunctional additive blends provide, in addition to coalescence, increased hardness, hardness develop-
ment, scrub resistance, block resistance, dirt pickup resistance, wet adhesion, and corrosion (flash rust) resistance, among other prop-
erties, to waterborne coatings or other waterborne polymer film-forming compositions, and are comprised of known low volatile coa-
lescents in combination with certain high volatile components some of which were not known nor heretofore utilized as coalescents.
The inventive blends have been found to act synergistically to provide coalescence and unexpected improvement in properties of wa-
terborne polymer formulations, while still providing a low VOC content to the formulations. The invention is also directed to methods
for improving the properties of waterborne polymer systems and for incorporating organic acids into waterborne coatings to enhance
flash rust resistance, among other properties, through use of the low VOC multifunctional additive blends of the invention.