

Mixed Octyl Isomer Derivative of CYASORB® UV-1164 Light Absorber Satisfies Asian Customer Performance Requirements with Improved Compatibility

Background (Customer 1)

A leading Asian producer of spandex polyurethane (PUR) fiber was looking for an improved UV stabilizer for their swimsuit and sportswear grades. CYASORB UV-1164 light absorber, the straight chain octyl powder grade, was recommended because of its high molecular weight and expected good performance in polyurethane elastomers. CYASORB UV-1164 performed well, but some deposits of UV-1164 powder were noted on the guides used to transport the fiber during manufacturing.

Solution

Cytec recommended a mixed octyl isomer of CYASORB UV-1164 used in coating solvent-based products because of the expected higher compatibility in the spandex fiber. A new solution product in DMAC (CYASORB UV-1164D), which is used as the PUR pre-polymer dry spinning solvent, was sampled, which eliminated the deposits on the fiber transport guides.

Background (Customer 2)

A leading Asian producer of custom polypropylene (PP) compounds was looking for an improved UV system for a multi-layer decorative wood grain PP laminate product. A UV screening clear PP film

was needed to protect the color stability of the pigmented wood grain PP substrate. CYASORB UV-1164 light absorber, the straight chain octyl powder grade, was recommended because of its high molecular weight and expected performance in a polypropylene film. The CYASORB UV-1164 performed well, but some blooming was noted in some formulations.

Solution

The mixed octyl isomer of CYASORB UV-1164, available as a 50% active product in a butyl acetate coating solvent system, was sampled, stripped of the butyl acetate solvent, and was compounded into the PP, which eliminated the blooming problems.

Cytec Polymer Additives is now in the process of commercializing the mixed octyl isomer of CYASORB UV-1164 without any solvent system, which will be called CYASORB UV-1164G light absorber. Cytec Polymer Additives expects that CYASORB UV-1164G will solve many other solubility/compatibility problems in polymers and coating applications. CYASORB UV-1164G can be combined with Cytec's other light stabilizer chemistries, such as hindered amines and hindered benzoates.

• Email: custinfo@cytec.com Worldwide Contact Info: www.cytec.com US Toll Free: 888-CYTEC-PA Tel: 704-423-8900 •

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