Additive mixtures

Field of the invention

The presently claimed invention relates to an additive mixture comprising a compound of formula (1) and a compound of formula (2). The presently claimed invention further relates to a composition comprising an organic material which is susceptible to oxidative, thermal or light-induced degradation and the additive mixture. The presently claimed invention also relates to a method for stabilization of organic materials by incorporating therein or applying thereto the additive mixture. Further, the presently claimed invention relates to the use of the additive mixture as light stabilizer for organic materials.

Background of the invention

Organic materials namely synthetic polymers such as polyolefins, polyethylenes, polypropylenes, and the like are used in wide variety of applications due to their ease of use in the manufacturing of a variety of extruded and molded articles. However, these articles frequently suffer from general stability due to repeated exposure to the UV light. Further, current stabilization systems i.e., anti-scratch agent improved organic materials, when used to prepare automotive articles, show a blooming/exudation due to repeated exposure of these articles to the UV light. Blooming/exudation is undesirable because it can destroy the aesthetic surface characteristics of articles made with polymers that bloom. It is particularly undesirable for bloom to occur in articles where clarity is desired. Bloom is also undesirable as it reduces the ability of an article made with the blooming polymer to be securely bound to other article with adhesives. Blooming has been recognized as serious problem in some applications and an effective means for alleviating it has been sought for years.

Hence, retaining the properties such as stability of the polymer when exposed to the UV light and reducing the tendency of a polymer to bloom is highly desirable.

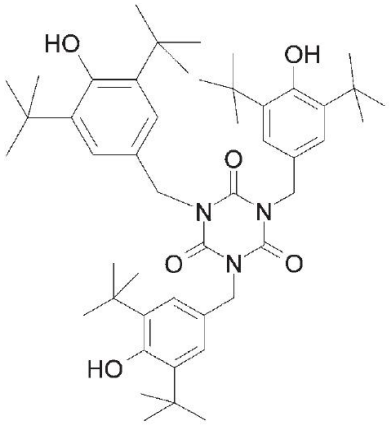
Thus, an object of the present invention is to provide additive mixture that stabilizes an organic material which is susceptible to oxidative, thermal or light-induced degradation.

Another object of the present invention is to provide an additive mixture, which when used in organic material, provides a surface that shows no stickiness to the organic material articles and that shows no blooming/exudation from the organic material articles.

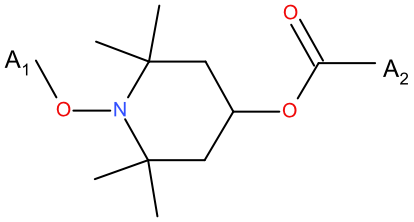
Summary

Surprisingly, it has been found that additive mixtures containing certain compounds according to the present disclosure, stabilize an organic material which is susceptible to oxidative, thermal or light-induced degradation. The additive mixtures of the present disclosure when used for organic materials, provide a surface which shows no stickiness to the organic material articles and which shows no blooming/exudation from the organic material articles.

Thus, in one aspect, the present disclosure is directed to an additive mixture comprising a compound of formula (1) and a compound of formula (2)



(1),



(2),

wherein

A_1 is linear or branched, substituted or unsubstituted C_1 to C_{20} alkyl, and

A_2 is linear or branched, substituted or unsubstituted C_1 to C_{30} alkyl.

In another aspect, the present disclosure is directed to a composition comprising

a) an organic material which is susceptible to oxidative, thermal or light-induced degradation; and

b) an additive mixture as defined above.

In another aspect, the present disclosure is directed to an automotive interior or exterior material made of a composition as defined above.

In another example, the present disclosure is directed to an automotive interior or exterior material made of a composition comprising an organic material and an additive mixture as defined above.

In another aspect, the present disclosure is directed to a method for stabilization of an organic material susceptible to oxidative, thermal or light-induced degradation, which comprises incorporating therein or applying thereto an additive mixture as defined above.

In another aspect, the present disclosure is directed to the use of the additive mixture defined above as light stabilizer for organic material susceptible to light-induced degradation.

In still another example, the present disclosure is directed to the use of the additive mixture as light stabilizer for organic material susceptible to light-induced degradation.

Detailed Description of the Invention

Before the present compositions and formulations of the invention are described, it is to be under-stood that this invention is not limited to particular compositions and formulations described, since such compositions and formulation may, of course, vary. It is also to be understood that the terminology used herein is not intended to be limiting, since the scope of the presently claimed invention will be limited only by the appended claims.