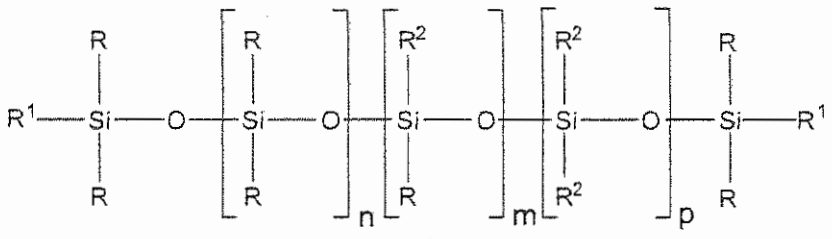
By using the present invention it has become possible for the first time to obtain wipe-resistant black moldings with no graying from poly(alkyl) (meth)acrylates, so that the excellent weathering resistance of these can be utilized. The moldings of the invention are therefore suitable for either indoor or outdoor use.

The inventors have discovered that it is in principle possible to use specific organomodified polysiloxanes and/or polysiloxane (block copolymers) to improve the resistance of surfaces of moldings made of poly(alkyl) (meth)acrylates to mechanical effects, in particular wiping and scratching. However, it has been found here that many of the polysiloxane additives marketed in order to improve the scratch resistance of polymer surfaces led to graying in the case of black moldings, or that it was impossible to achieve adequate wipe resistance. The comparative examples give further details in this connection. Confirmation has been obtained for the conclusions presented above in the description of the prior art, to the effect that additives that can be used to improve the scratch resistance of soft polymers cannot simply be transferred to hard polymers.

Summary

As a result of extensive studies, it has now been found that compounds of the formula (I)



(I)

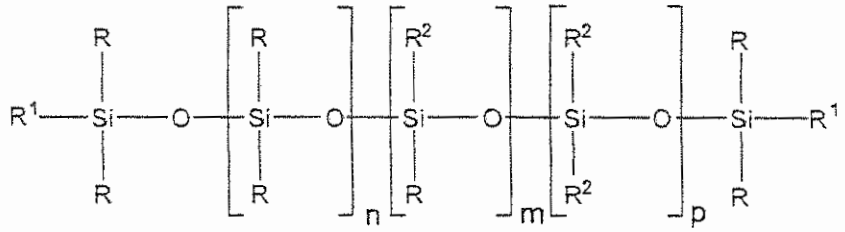
where R, R^1, R^2, n, m and p are as defined below are suitable for producing poly(alkyl) (meth)acrylate molding compositions and moldings which achieve the abovementioned objects in excellent fashion. The additive has no effect, or only very

little adverse effect, on the surface quality of the poly(alkyl) (meth)acrylate moldings, and the moldings disclosed herein~~of the invention~~ therefore have excellent surface quality.

In one aspect, there is provided a molding composition encompassing

a) a poly(alkyl) (meth)acrylate matrix material

b) at least one compound of the formula (I)



(I)

where

R, independently of one another, are an alkyl moiety having from 1 to 11, preferably from 1 to 4, carbon atoms,

R^1, independently of one another, are R or a polyester moiety,

R^2, independently of one another, are R, a polyester moiety or a hydrocarbon moiety having from 12 to 36 carbon atoms,

n, m and p, independently of one another, are from 0 to 58,

with the proviso

that N = n + m + p + 2 is from 15 to 75,

and

no R^1 is R when all R^2 are R, and at least one R^2 is not R when all R^1 are R

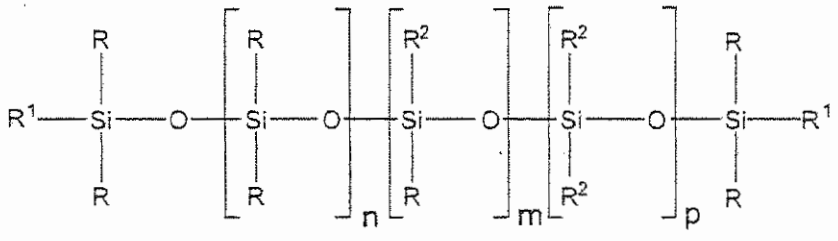
and/or

no moiety R^1 is R when m and p are 0, and m or p, preferably m, is not 0 when all moieties R^1 are R.

In another aspect, there is provided a molding encompassing

a) a poly(alkyl) (meth)acrylate matrix material

b) at least one compound of the formula (I)



(I)

where

R, independently of one another, are an alkyl moiety having from 1 to 11, preferably from 1 to 4, carbon atoms,

R^1, independently of one another, are R or a polyester moiety,

R^2, independently of one another, are R, a polyester moiety or a hydrocarbon moiety having from 12 to 36 carbon atoms,

n, m and p, independently of one another, are from 0 to 58,

with the proviso

that N = n + m + p + 2 is from 15 to 75,

and

no R^1 is R when all R^2 are R, and at least one R^2 is not R when all R^1 are R

and/or

no moiety R^1 is R when m and p are 0, and m or p, preferably m, is not 0 when all moieties R^1 are R.

The present disclosure~~invention~~ therefore provides molding compositions comprising a poly(alkyl) (meth)acrylate matrix material and at least one compound of the formula (I).

The present disclosure~~invention~~ also provides the use of the molding compositions defined herein~~of the invention~~ for producing moldings.

The present disclosure~~invention~~ therefore also provides moldings encompassing a plastic, comprising a poly(alkyl) (meth)acrylate matrix and a compound of the formula (I) as defined below.

Finally, the present disclosure~~invention~~ provides the use of the disclosed moldings~~of the invention~~ as decorative panels or functional add-on parts, in motor vehicles or consumer electronics or in household equipment.

Detailed Description

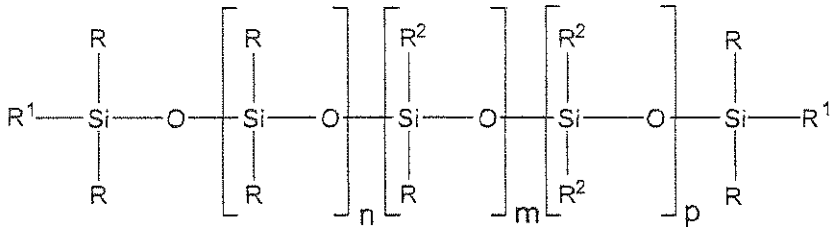
There now follows a detailed description of the subject matter of the present invention.

"(Meth)acrylate" means either methacrylates or acrylates.

The molding compositions of the invention encompass

a) a poly(alkyl) (meth)acrylate matrix material

b) at least one compound of the formula (I)



(I)

where