or to improve their transformation and/or processing performance. Therefor these additives are also called processing aids.

[007] Processing aids in small quantities in thermoplastic polymer compositions in general and in halogenated polymer compositions in particular can improve the processing characteristics through an acceleration of the fusion process of said thermoplastic polymer compositions in general and of halogenated polymer compositions in particular.

[008] Again other polymer compositions comprising polymers with specific characteristic (such as polymer composition, glass transition temperature or structure for naming some characteristics) are also used as additives for thermoplastic polymer compositions in general and in halogenated polymer compositions in particular in order to improve the impact resistance of the composition or object made out of these various polymers or plastic resin. Therefor these additives are also called impact modifiers.

[009] The additive polymer composition is compatible with thermoplastic polymer compositions in general and in halogenated polymer compositions in particular.

[010] The objective of the present disclosure is to propose a polymeric composition which can be added to thermoplastic polymers as an additive.

[011] The objective of the present disclosure is as well to propose a polymeric composition which acts as impact modifier and processing aid at the same time.

[012] An objective of the present disclosure is also to have a polymer composition that can be used to increase the melt fracture resistance of thermoplastic polymers.

[013] Another objective of the present disclosure is also to have a polymer composition that can be used to increase the productivity of extrusion of thermoplastic polymers.

[014] An additional objective of the present disclosure is the reduction of the price of a polymer composition which acts as processing aid and impact modifier at the same time for thermoplastic polymer compositions by addition of low cost components without negatively influencing the performance of the thermoplastic polymer compositions.

[015] Still another objective of the present disclosure is a method for manufacturing a polymer composition which acts as impact modifier and processing aid at the same time and increase the productivity of extrusion of thermoplastic polymers.

[016] Still an additional objective is having a process for preparing a polymer composition that can be used to increase the productivity of transformation of polymer compositions and to increase the impact strength.

[BACKGROUND]Prior art

[017] The document US 2009/0111915 discloses acrylic copolymers for use in highly filled compositions. In particular the document disclosed filled polyvinylchloride (PVC) materials as a composition for flooring comprising 70wt% to 95wt% filler, 1wt% to 15wt%PVC and 0.5wt% to 4wt% of acrylic copolymer or a composition for siding or pipe comprising 15wt% to 35wt% filler, 50wt% to 95wt%PVC and 0.25 to 6wt% of acrylic copolymer.

[018] The document WO 2010/099160 discloses composite polymer modifiers. The document discloses a composite polymer modifier consisting of 99wt% to 1wt% of inorganic filler and from 1wt% to 99wt% of a polymeric processing aid and 0wt% to 80% of an impact modifier. The impact modifier is optional, however used in some examples. This document discloses no specific advantages about certain impact modifier compositions.

[019] The document US 3,373,229 discloses vinyl polymer compositions. The compositions comprises polyvinyl chloride and

high molecular weight polymers of methyl methacrylate or copolymers of methyl meth acrylate with a small amount of an alkyl acrylate as processing aid. The composition might comprise a filler.

[020] None of the prior art documents discloses such a specific polymer composition comprising an inorganic compound, a (meth)acrylic copolymer and a polymeric impact modifier, neither its process of preparation or its use.

[Brief description]

[020a] In an aspect, there is provided a polymer composition P1 comprising:

a) from 30wt% to 60wt% of an inorganic mineral compound (F) ,

b) from 2wt% 15wt% a (meth)acrylic copolymer (A1) or a mixture of (meth)acrylic copolymers

c) a polymeric impact modifier (IM1) or a mixture of polymeric impact modifiers

characterized that the three components of a), b) and c) add up to 100wt%.

[020b] In another aspect, there is provided a process for preparing a polymeric composition P1 comprising

a) from 30wt% to 60wt% of an inorganic compound (F)

b) from 2wt% 15wt% a (meth)acrylic copolymer (A1)

c) a polymeric impact modifier (IM1)

characterized that the three components a), b) and c) add up to 100wt%, said process comprises the step of

blending the three components of a), b) and c), while the two components b) and c) and at least 83.33wt% of compound a) are in form of a dispersion in aqueous phase during the blending step

[020c] In another aspect, there is provided a process for preparing a composition P1 as defined above, wherein said inorganic compound (F) consists of a mineral filler (F1) and a flow aid (F2), wherein the weight ratio (F1)/(F2) is at least 5/1.

[020d] In another aspect, there is provided a process for preparing a polymeric composition P2 comprising polymer

composition P1 as defined above or obtained by a process as defined above,

the said polymeric composition P2 comprises also

d) a thermoplastic polymer TP1

said process comprises the step of

blending the compositions P1 and the thermoplastic polymer TP1.

[020e] In another aspect, there is provided the use of a composition as defined above or obtained by a process as defined above, for increasing the melt fracture resistance of a thermoplastic polymer TP1.

[020f] In another aspect, there is provided the use of a composition as defined above or obtained by a process as defined above,transforming a polymeric composition P2 that comprises said polymeric composition P1 and a thermoplastic polymer TP1.

[020g] In another aspect, there is provided an article comprising transformed polymer composition as defined above, characterized that the article is a profile, a pipe, a siding, a flooring film, sheet or foamed article.

[021] Surprisingly it has been found that a polymer composition P1 comprising

a) from 30wt% to 60wt% of an inorganic compound (F),

b) from 2wt% 15wt% a (meth)acrylic copolymer (A1) and

c) a polymeric impact modifier (IM1);

characterized that the three components of a), b) and c) add up to 100wt%, increases the melt fracture resistance of thermoplastic polymers while giving good impact properties.

[022] Surprisingly it has also been found that a process for preparing a polymer composition P1 comprising

a) from 30wt% to 60wt% of an inorganic compound (F)

b) from 2wt% 15wt% a (meth)acrylic copolymer (A1)

c) a polymeric impact modifier (IM1);

characterized that the three components of a), b) and c) add up to 100wt%, said process comprises the step of

blending the three components a), b) and c), while the two components of b) and c) and at least 83.33wt% of compound of

a) are in form of a dispersion in aqueous phase during the blending step;

yields to a polymer composition that increases the melt fracture resistance of thermoplastic polymers while giving good impact properties.

[023] Surprisingly it has also been found that a process for preparing a polymer composition P1 comprising