COPOLYMER AND OILY GELLING AGENT

RELATED APPLICATIONS

[0001] This application claims the priority of Japanese Patent Application No. 2014-257488 filed on December 19, 2014, which are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to a novel copolymer, and in particular, relates to the copolymer to a form of a stable oily gelled composition, wherein the copolymer acts an oily gelling agent.

BACKGROUND OF THE INVENTION

[0003] Conventionally, gelled compositions have been used in various fields including such as cosmetics and foods, wherein an oily gelling agent is generally used to form such gelled composition containing oils.

For example, fats and oils contains at least 70 % by mass of a triglyceride derived from a mixture of palmitic acid and behenic acid, wherein the mass ratio of each acid is 30:70 to 70:30, and the iodine value thereof is 10 or smaller, is used as the oily gelling agent (Patent Literature 1).

However, the stability of such oily gelled composition and particularly the temperature stability of the above oily gelled compositions are still needed to be further improved.

Patent Document

[0004]

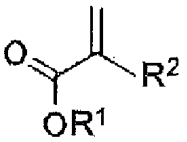
Patent literature 1: Japanese unexamined patent publication No. 2008-133358

SUMMARY

In one aspect, there is provided a copolymer derived from a mixture comprising:

a hydrophobic monomer unit having a general formula (1)

[General formula (1)]

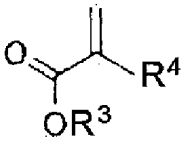


(1)

wherein, R^1 is at least one alkyl group selected from a group consisting of straight chained and branched alkyl group, having 16 to 22 carbon atoms; and R^2 is at least one group selected from a group consisting of a hydrogen atom and a methyl;

and a hydrophilic monomer unit having a general formula (2) or a general formula (3);

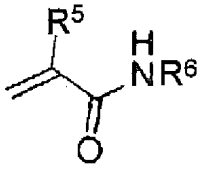
[General formula 2]



(2)

wherein R^3 is one group selected from a group consisting of hydrogen atom, glyceryl group, straight chained hydroxyalkyl group having 1 to 4 carbon atoms, a branched hydroxyalkyl group having 1 to 4 carbon atoms, and polypropylene glycol group illustrated as $-(C_3H_6O)_nH$, wherein n is an integer of 2 to 10), R^4 is at least a group selected from a group consisting of hydrogen atom and methyl.,

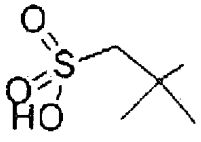
[General formula (3)]



(3)

wherein, R^5 is at least one selected from a group consisting of hydrogen atom or methyl. R^6 is a group selected from a group consisting of a straight chained or branched alkyl group, a hydroxyalkyl group having 1 to 4 carbon atoms, or a substituent having structural formula (4).)

[Structural formula (4)]



(4)

In another aspect, there is provided an oily gelling agent comprising the copolymer according

to the present invention.

In another aspect, there is provided an oily gelled composition comprising the oily gelling agent according to the present invention.

In a further aspect, there is provided an oily cosmetic comprising the oily gelled composition according to the present invention.

In yet a further aspect, there is provided a water-in-oil cosmetic comprising the oily gelled composition according to the present invention.

DISCLOSURE OF THE INVENTION

PROBLEM TO BE SOLVED BY THE INVENTION

[0005] The present invention is made in view of the above-described conventional art, and the problem to be solved is stability of oily gelled composition, and whether the new