DE 10 2005 002 645 A1 describes alcoholic compositions with a content of glycerol ether and bispyridinium alkane.

DE 10 2013 213 252 A1 discloses an isopropanol-containing liquid composition for use in a method for controlling caliciviruses. The presence of fatty alcohol as refatting agent improves the efficacy against caliciviruses. Furthermore, a disinfectant with a content of 75% by weight of isopropanol and efficacy in hygienic hand disinfection (EN1500) and surgical hand disinfection (EN12791) is known which comprises a combination of dexpanthenol and 1-(2-ethylhexyl) glycerol ether as skin protection and skincare.

EP 2 135 507 A1 discloses ethanolic disinfectants with a content of a compound which releases zinc ions in solution. EP 1 685 854 A1 discloses virucidal disinfectants with a content of acidic phosphorous compounds.

The present invention is based on the object of providing refatting agents for disinfectants with a content of isopropanol and ethanol, where the refatting agents in the disinfectant should have, in contrast to glycerol, no effect inhibiting the antimicrobial efficacy, and indeed in particular if they are to be used in a relatively high concentration.

There is, in particular, a need for disinfectants for hygienic and surgical hand disinfection which despite having a high content of C_2- to C_3-alcohols and accordingly being very highly antimicrobially (in particular bactericidally) effective, at the same time have the least possible defatting effect. In this connection, these agents should comprise the fewest possible mandatory constituents. The disinfectants should thus not comprise many different mandatory antimicrobial active ingredients. Similarly, the agents should not automatically comprise many different active ingredients for improving the skincare properties (or these skincare active ingredients in a large amount).

Summary

It has now been found that this object is achieved according to the invention through the use of fatty alcohols. According to the present invention, it has thus been found that the addition of fatty alcohols as refatting agents to a disinfectant with a content of isopropanol and ethanol even leads to an improvement in the efficacy towards bacteria both in the quantitative suspension experiment according to EN13727 as well as in the germ carrier experiment simulating practical conditions in accordance with EN12791, where, surprisingly, it does not depend on the presence of glycerol or glycerol ethers (such as 1-(2-ethylhexyl) glycerol ethers).

In one aspect thre is provided a composition which comprises for 100% of its weight, a) 50 to 85% by weight of isopropanol b) 3 to 20% by weight of ethanol; and c) one or more fatty alcohols; said composition also comprising less than 0.3% by weight of glycerol.

In another aspect there is provided a method for the hand disinfection in a preoperative preparation of an operation, or of any medical treatment, comprising a step of rubbing the hands with the composition as described herein.

In yet another aspect, there is provided a use of the composition as described herein to disinfect a surface.

Surprisingly, it has been possible to show that the use according to the invention of fatty alcohols, in combination with the effective constituents isopropanol and ethanol, leads to a significant increase in efficacy. This is surprising in particular against the background that the fatty alcohols without 1-(2-ethylhexyl) glycerol ethers lead to a considerably improved efficacy of the formulation against bacterial pathogens, which differ considerably from viral pathogens in their cellular structure. In this connection, favourable effects have been shown both against GRAM-negative bacteria (*E. coli*) as well as against GRAM-positive pathogens on the skin (see the experiments relating to surgical hand disinfection).

Detailed Description

In a first aspect, the invention thus relates to a

, which comprises for 100% of its weight:

a) 50 to 85% by weight of isopropanol,
b) 3 to 20% by weight of ethanol and
c) one or more fatty alcohols,

said composition also comprising less than 0.3% by weight of glycerol.

a) <u>Isopropanol</u>

The composition according to the invention comprises 50 to 85% by weight of isopropanol. It is preferred that the content of a) isopropanol is 55 to 83% by weight, preferably 60 to 80% by weight, more preferably 65 to 75% by weight, such as 68 to 72% by weight.

b) Ethanol

The composition according to the invention comprises 3 to 20% by weight of ethanol. It is preferred that the content of b) ethanol is 4 to 18% by weight, preferably 6 to 14% by weight, more preferably 8 to 12% by weight, such as 9 to 11% by weight.

c) Fatty alcohols

The composition according to the invention comprises one or more fatty alcohols. It is preferred that the content of c) fatty alcohol is 0.2 to 2% by weight, preferably 0.4 to 1.5% by weight, more preferably 0.5 to 1.2% by weight, in particular 0.6 to 1.0% by weight, such as 0.7 to 0.9% by weight.

The fatty alcohols used according to the invention are monohydric, primary alcohols and are derived from unbranched, optionally mono- or polyunsaturated hydrocarbon radicals having 6 to 22 carbon atoms, more particularly 12 to 18 carbon atoms. Examples of fatty alcohols are lauryl alcohol, myristyl alcohol, cetyl alcohol and stearyl alcohol.

Claims

1. Composition, which comprises for 100% of its weight:

a) 50 to 85% by weight of isopropanol;

b) 3 to 20% by weight of ethanol; and

c) one or more fatty alcohols;

said composition also comprising less than 0.3% by weight of glycerol.

2. Composition according to claim 1, **characterized in that** the content of a) isopropanol is 60 to 80% by weight.

3. Composition according to anyone of claims 1 or 2, **characterized in that** the content of b) ethanol is 6 to 14% by weight.

4. Composition according to anyone of claims 1 to 3, **characterized in that** the content of c) fatty alcohol is 0.2 to 2% by weight.

5. Composition according to anyone of claim 1 to 4, **characterized in that** component c) is a mixture consisting of i) cetyl alcohol, ii) stearyl alcohol and iii) myristyl alcohol.

6. Composition according to claim 5, which comprises for 100% of its weight:

a) 60 to 80% by weight of isopropanol,

b) 6 to 14% by weight of ethanol and

c) 0.4 to 1.5% by weight of a mixture consisting of i) cetyl alcohol, ii) stearyl alcohol and iii) myristyl alcohol.

7. Composition according to anyone of claims 1 to 6, **characterized in that** it further comprises:

d) from 0.01 to 2% weight of one or more sugar alcohols.

8. Composition according to Claim 7, which comprises for 100% of its weight:

a) 60 to 80% by weight of isopropanol,

b) 6 to 14% by weight of ethanol,

c) 0.4 to 1.5% by weight of a mixture consisting of i) cetyl alcohol, ii) stearyl alcohol and iii) myristyl alcohol;

d) 0.1 to 2% by weight of sorbitol.

9. Composition according to anyone of claims 1 to 8, **characterized in that** it further comprises:

e) form 0.01 to 1% by weight one or more skincare agents.

10. Composition according to Claim 9, which comprises for 100% of its weight:

a) 60 to 80% by weight of isopropanol;

b) 6 to 14% by weight of ethanol;

c) 0.4 to 1.5% by weight of a mixture consisting of i) cetyl alcohol, ii) stearyl alcohol and iii) myristyl alcohol;

d) 0.1 to 2% by weight of sorbitol; and

e) 0.05 to 0.5% by weight of dexpanthenol.

11. . Composition according to anyone of claims 1 to 10, **characterized in that** it further comprises water.

12. Composition according to Claim 9, which consists of 100% of its weight:

a) 65 to 75% by weight of isopropanol;

b) 8 to 12% by weight of ethanol;

c) 0.5 to 1.2% by weight of a mixture consisting of i) cetyl alcohol, ii) stearyl alcohol and iii) myristyl alcohol;

d) 0.2 to 1.5% by weight of sorbitol; and

e) 0.1 to 0.3% by weight of dexpanthenol, and

f) water q.s. 100% by weight.

13. Composition according to anyone of claims 1 to 12, for use as a disinfectant of the human or animal body skin.

14. Composition according to anyone of claims 1 to 12, for use as a disinfectant of the human hand skin.

15. Method for the hand disinfection in a preoperative preparation of an operation, or of any medical treatment, comprising a step of rubbing the hands with the composition according to any one of claims 1 to 12.

16. Use of the composition according anyone of claims 1 to 12, to disinfect a surface.