

Menthol Soap

The invention relates to menthol soap or soap compounded
5 with menthol which produces a cold or refreshing feeling in
use.

Menthol soap has long been known, but needle crystals of
menthol grow and come out to the surface during storage or
10 use, and cracks form if the soap is allowed to stand in a
wet state after use.

The invention provides a menthol soap comprising a soap
base, from 1 to 7% of menthol based on the weight of the
15 soap base, from 1 to 7% based on the weight of the soap
base of a crack-preventing agent being a higher
alcohol/ethylene oxide adduct containing from 10 to 50
moles of ethylene oxide per mole of alcohol, and an
alkylene diol having from 2 to 6 carbon atoms as a solvent
20 for the menthol in an amount of from 1/3 to 3/2 by weight
times that of the menthol.

The menthol used may be any of d-menthol, l-menthol, and dl-
menthol, but l-menthol is particularly preferred. The
25 amount of menthol compounded is preferably from 2 to 3%
based on the weight of the soap base.

Hans E. Tschakert, Seifen-Ole-Fette-Wachse, 83, Nr. 21,
610-612 and Nr. 22, 651-654 (1957) shows that oleyl
30 alcohol/ethylene oxide adduct and a lauryl alcohol/ethylene
oxide adduct are effective as crack-preventing agents for
soap if added to soap base. Higher alcohol/ethylene oxide
adducts, alkanolamides of higher fatty acids, higher fatty
acid alkanolamide/ethylene oxide adducts, polyethylene
35 glycols, and polypropylene glycols can be used as

crack-preventing agents. Examples of suitable surface active agents are ethylene oxide adducts of saturated or unsaturated higher alcohols such as oleyl alcohol, cetyl alcohol, stearyl alcohol, and beef tallow alcohol. The amount of the crack-preventing agent compounded is usually about equal to that of the menthol compounded.

The solvent for the menthol prevents crystal growth; it is compatible with the soap base and involatile, and does not have a strong odour. Among suitable solvents are ethylene glycol, propylene glycol, and hexylene glycol. The amount of solvent is preferably from 1/2 to 1/1 by weight times that of menthol.

The soap base used may be one commonly used in the production of milled soap, for example a sodium salt of a fatty acid such as beef tallow, coconut oil, or palm oil.

Additives such as perfumes, dyes, preservatives and germicides may be added to the menthol soap if required.

The menthol soap of the invention can be produced by various procedures. Generally it is produced as follows. First, a crack-preventing agent is melted, and this molten crack-preventing agent added to and mixed with a soap base. Then, a solvent with menthol dissolved therein is added, and the resulting mixture is milled and extruded under pressure, for example, in the form of bars. Finally the bar-shaped soap is cut to the desired length and stamped. The order in which the components are added to the soap base is not critical, for example, that described above might be reversed.



(14)

Cracking Test

Immersion in water at 20°C for 4 hours, hanging for 36 hours. The soap was examined visually for cracks.

5 Storage Test

Immersed in water maintained at 20°C for 6 hours, followed by hanging. After 48 hours, examined visually for cracks on the surface. To facilitate the determination, a 1% aqueous solution of F. D. & C. Green No. 3 was added to the soap in a proportion of 0.3% by weight.

Neither cracks nor growth of needle crystals were observed. The processability (mould-separation) of the menthol soap was good.

15 EXAMPLE 2

Menthol soap was produced as in Example 1 except that the amounts of the menthol, crack-preventing agent, and solvent compounded were all changed to 5% based on the weight of the soap base.

20 This menthol soap was tested in the same manner as in Example 1. Neither cracks nor growth of needle crystals were observed.

EXAMPLE 3

25 Menthol soap was produced as in Example 1 except that hexylene glycol was used as the solvent in place of propylene glycol.

In this menthol soap, cracks and growth of needle crystals were not observed at all.

Processability was good.

EXAMPLE 4

5 Menthol soap was produced as in Example 1 except that the amount of the crack-preventing agent to be compounded was changed to 2% based on the weight of the soap base.

10 In this menthol soap, cracks and growth of needle crystals were not observed at all. Processability was very good.

CLAIMS:

1. A menthol soap comprising a soap base, from 1 to 7% of menthol based on the weight of the soap base, from 1 to 7% based on the weight of the soap base of a crack-preventing agent being a higher alcohol/ethylene oxide adduct containing from 10 to 50 moles of ethylene oxide per mole of alcohol, and an alkylene diol having from 2 to 6 carbon atoms as a solvent for the menthol in an amount of from 1/3 to 3/2 by weight times that of the menthol.
 2. A menthol soap according to claim 1 in which the amount of menthol compounded is from 2 to 3% based on the weight of the soap base.
 3. A menthol soap according to claim 1 or claim 2 in which the higher alcohol in the adduct is oleyl alcohol, cetyl alcohol, stearyl alcohol or beef tallow alcohol.
 4. A menthol soap according to any preceding claim in which the diol solvent is ethylene glycol, propylene glycol, or hexylene glycol.
 5. A menthol soap as herein described in any of the Examples.
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