Patented Aug. 22, 1950

2,519,665

UNITED STATES PATENT OFFICE

2,519,665

DENTIFRICE

Andrew August Klippert, Hollis, N. Y., assignor to Colgate-Palmolive-Peet Company, Jersey City, N. J., a corporation of Delaware

No Drawing. Application October 6, 1948, Serial No. 53,156

9 Claims. (Cl. 167—93)

1

This invention relates to improvements in dentifrice compositions, and more particularly to improved flavoring material for powder dentifrices.

In flavoring dentifrices, oil of wintergreen, which is essentially methyl salicylate, has been frequently used. Instead of employing the natural oil itself, synthetic methyl salicylate has been utilized, but both the natural and the synthetic product are quite volatile. Accordingly, it has been necessary heretofore to package tooth powders which contain such volatile flavoring material in metal containers, since ordinary cardboard or paper receptacles cannot be satisfactorily employed because they are relatively porous and permit the volatile flavoring substance to escape too rapidly. Even with the use of metal containers there is a certain gradual loss of the volatile flavoring material through the top closure and the side seams, which are generally not made vapor tight. This loss may become sufficient, where the package is stored over a period of years before use, to impair the quality of the product. This, of course, is undesirable.

It has now been discovered that the wintergreen-type flavor may be prepared and used in a dry solid form, and which is not volatile and evanescent, the alkali metal derivative, i. e. sodium methyl salicylate is particularly effective for this purpose. This material is non-volatile and hence is not dissipated through the walls of a container, but remains in the dentifrice until used. During use, the mild acids of the saliva dissolve and convert the sodium methyl salicylate to free methyl salicylate which imparts thereupon the typical fresh pleasant wintergreen flavor at the point of use. Suitable mixtures of the non-volatile flavoring substance and volatile flavoring substances may be used to give the tooth powder a pleasing scent.

Sodium methyl salicylate may be prepared in any suitable manner. For example, the methyl salicylate salt may be made by reacting methyl salicylate with sodium hydroxide in alcohol solution. The desired sodium derivative of methyl salicylate formed by the reaction may be recovered from the solution by crystallization. Where the potassium salt is desired, potassium hydroxide will be used in place of sodium hydroxide, as will be readily understood.

The following specific examples are given to show how the invention may be utilized, the examples being merely illustrative and not limitative of the invention.

2

Example I

A tooth powder is made up containing the following ingredients:

	Parts by Wt.
Di calcium phosphate	92.0
Saccharine	0.1
Sodium glyceryl monolaurate sulfate	5.0
Sodium methyl salicylate	3.0

The ingredients, in finely divided form, are mixed together in a suitable mixing apparatus and are then packaged in ordinary cardboard containers.

Upon aging a portion of the dentifrice powder of Example I at approximately 105° F. for two weeks in an ordinary cardboard container, the tooth powder at the end of the test period still possessed a pleasant wintergreen flavor when used in the customary way. Moreover, the tooth powder remained in the same dry, powdery state as when originally made. A similar dentifrice powder, however, in which 2½ parts of methyl salicylate replaced 3 parts of sodium methyl salicylate, upon testing after a like aging period, was found to possess practically no flavoring, and was quite unpalatable.

As modifications of the tooth powder composition of Example I, the following is given:

Example II

A soap base tooth powder is made up by thoroughly mixing the following ingredients:

	Parts by Wt.
Finely divided calcium carbonate	80.0
Saccharine	0.2
Eucalyptus oil	0.6
Sodium methyl salicylate	0.5
Powdered soap from cocoa butter	18.0
Powdered borax	2.0

The ingredients in finely powdered form were thoroughly mixed to provide a powder-like soap-base dentifrice.

Example III

	Parts by Wt.
Di calcium phosphate	45.0
Insoluble sodium meta phosphate	45.0
Saccharine	0.1
Sodium lauryl sulfate	5.0
Sodium methyl salicylate	3.0

The ingredients were finely divided and thoroughly admixed to provide a finished tooth powder.

Example IV

A

	Parts by Wt.
Di calcium phosphate	88.0
Saccharine	0.1
Sodium glyceryl monolaurate sulfate	5.0
Sodium methyl salicylate	2.0

B

Magnesium carbonate	4.0
Methyl salicylate	1.0

The ingredients of (B) are thoroughly mixed and added to ingredients (A), and the whole suitably mixed. The methyl salicylate is incorporated to give the tooth powder a pleasing odor of wintergreen during the normal period of storage. When the dentifrice is used the flavor is fortified through the dissolving and conversion of the sodium methyl salicylate to methyl salicylate.

Example V

A

	Parts by Wt.
Di calcium phosphate	86.0
Saccharine	0.1
Sodium glyceryl monolaurate sulfate	5.0
Sodium methyl salicylate	2.0

B

Precipitated magnesium silicate[1]	6.0
Methyl salicylate	1.0

[1] This is an adsorbent silicate of the dehydrated activated gel type, a similar product being sold under the trade name Magnesol (pharmaceutical grade).

The ingredients of (B) are thoroughly mixed and added to ingredients (A), and the whole suitably mixed. The precipitated magnesium silicate functions to adsorb and release slowly the methyl salicylate so that the dentrifice powder has a pleasing aroma of wintergreen for a much longer time than where no adsorbent powder is used. Other suitable adsorbent or absorbent substances may be used in place of or together with the precipitated magnesium silicate. For example, colloidal clay, activated carbon or the like may be used for this purpose.

Other volatile flavoring substances also may be used with the sodium methyl salicylate if desired, such as oil of peppermint, thyme or the like, and which give the dentifrice a pleasing scent over the normal period of storage and use.

Various wetting agents, such as alkyl aryl sulphonates or the like, may be used in place of the sulfated fatty alcohol or monoglyceride type compounds. Also other fillers and/or cleansing and polishing agents commonly used in the preparation of tooth powders may be incorporated or substituted in whole or in part for equivalent materials mentioned in the examples. For instance, in place of di-calcium carbonate there may be used tricalcium ortho phosphate. Also precipitated calcium carbonate and/or magnesium carbonate may be used as a polishing agent, either alone or in combination. In addition, an acid buffer, such as boric acid may be incorporated, if desired to aid in liberating the methyl salicylate during use of the dentrifice. It will be also understood that other flavoring materials may be used with sodium methyl salicylate to modify its flavor. Coloring materials and the like may also be added in varying amounts to produce a tooth powder having the desired physical characteristics.

While the use of sodium methyl salicylate is preferred, it is to be understood that other water soluble methyl salicylate compounds may be used which are non-toxic and release methyl salicylate during the use of the powder, and such modifications of the dentifrice powder compositions are considered to be within the scope of the present invention.

What is claimed and desired to be protected by Letters Patent is:

1. A dentifrice tooth powder containing as a flavor imparting ingredient, an alkali metal salt of methyl salicylate.

2. A dentifrice tooth powder containing as a flavor imparting ingredient, a sodium salt of methyl salicylate.

3. A dentifrice tooth powder comprising a polishing agent, sodium methyl salicylate and methyl salicylate.

4. A dentifrice tooth powder comprising as a polishing agent a phosphate salt, and sodium methyl salicylate as a flavoring ingredient.

5. A dentifrice tooth powder comprising a polishing agent, a detergent, sodium methyl salicylate and a volatile flavoring material.

6. A dentifrice tooth powder comprising as flavor imparting ingredients the combination of a solid non-volatile substance comprising an alkali metal salt of methyl salicylate which decomposes in water producing a flavoring material, and a liquid volatile flavoring substance.

7. A dentifrice tooth powder as claimed in the preceding claim wherein there is included an adsorbent material for said liquid volatile flavoring substance to lengthen the time that said liquid volatile flavoring substance remains in the dentifrice.

8. A dentifrice tooth powder comprising an inorganic phosphate salt, a detergent, sodium methyl salicylate, liquid volatile flavoring material, and precipitated magnesium silicate as an adsorbent for said liquid volatile flavoring material.

9. In a dentifrice tooth powder containing ingredients for cleansing and polishing teeth, a latent flavor supplying agent comprising an alkali metal salt of methyl salicylate.

ANDREW AUGUST KLIPPERT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,216,821	Long	Oct. 8, 1940

FOREIGN PATENTS

Number	Country	Date
472,812	Great Britain	Sept. 23, 1937