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EMULSIONS OF TUNG OIL STABILIZED BY A SODIUM SOAP OF A VEGETABLE OIL

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ABSTRACT OF THE DISCLOSURE

Stable emulsion of raw tung oil in an aqueous solution of vegetable oil soap suitable for lotions and shampoos which have cleansing, skin conditioning properties and aid in preventing and controlling skin lesions and skin ecto-parasites of dogs and other animals. The vegetable oil soap serves to stabilize the glyceral α elaeostearate against conversion to the insoluble β form.

The invention relates to lotion and shampoo compositions, and more particularly to emulsions or raw tung oil suitable for use as lotions, shampoos and the like.

In spite of the fact that tung oil has been known for many years to be a healing agent and effective for use topically in the treatment of dermatosis, burns, ulcerations, sprains, soreness, lacerations, and the like, and also is known to be non-toxic and markedly free from allergic reactions, it has not, so far as applicant knows, been used in emulsions for lotions or shampoos. This is believed due to the fact that under normal conditions raw tung oil is unstable because of the tendency of glyceryl α-elaeostearate, which ordinarily comprises about 75–85% of the oil, to change over to the solid β form in the presence of light.

The problem involved was to discover a simple, inexpensive way of making an emulsion of raw tung oil in an aqueous medium in which the tendency of the tung oil toward β compound formation was checked.

Applicant found that the tendency toward β compound formation was checked or substantially lessened by emulsifying raw tung oil in an aqueous solution of vegetable oil soap.

The vegetatble oil soap may be any soap made by saponifying any vegetable oil, including such oils as olive oil, cocoanut oil, palm oil, linseed oil, cottonseed oil, soyabean oil and the like. Preferably a neutral soap, i.e., one which is substantially free of caustic is used. Generally a small amount of glycerine is present with the soap such as 1–5% by weight.

The concentration of the vegetable oil soap to obtain substantial stabilization of the raw tung oil may be as low as approximately 2% by weight of the raw tung oil and for emulsion useful for lotions the amount of soap (dry) may range from approximately 2% on the basis of the soap plus tung oil to approximately 10%.

In accordance with one embodiment of this invention 75–85 parts by weight of raw tung oil is added to 15–25 parts by weight of an aqueous solution of a vegetable oil soap containing 70–85% water. The soap (dry) may contain a small amount, such as 5% by weight of glycerine.

In another embodiment 70–85 parts by weight of raw tung oil, and 5–10 parts by weight of other vegetable oil (such as linseed, castor, olive, cottonseed oil) are added to 10–20 parts of an aqueous solution of vegetable oil soap, containing 70–85% water.

The above ingredients are either vigorously mixed by stirring or beating or are run through a colloid mill or homogenizing machine for several minutes to produce a

creamy and white emulsion. Use of a colloid mill or homogenizing machine decreases the size of the oil's fat droplets, increases fluidity and facilitates rapid penetration into the animal's skin. The concentrated vegetable oil soap serves as the emulsifying, and cleansing agent and is instrumental in creating a pleasant creamy eggshell-white color.

The emulsion of raw tung oil in an aqueous solution of vegetable oil soap product is useful as a cleansing, dry skin preventing, skin conditioning, and hair grooming emulsified lotion or shampoo for dogs and other animals.

In addition it also aids in preventing and controlling various skin lesions and skin ecto-parasites of dogs and other animals. The oil emulsion in concentrated form may be applied to the animal's hair and skin as a lotion by thoroughly rubbing (massaging) it on or it may be diluted with water (up to 70%) and applied as a shampoo, depending upon the condition of the animal's hair and skin and the desired results. In either case, several minutes (preferably 10 minutes) should be allowed to elapse to facilitate skin penetration of the oil, before rinsing the animal with water to remove most of the soap and dirt.

The following are examples of vegetable oil emulsion lotions:

EXAMPLE 1

An aqueous vegetatble oil soap is first prepared by stirring 35–45 parts by weight of a vegetable oil paste soap in 55–65 parts by weight of water. A vegetable oil paste soap which is suitable consists of 40–50 parts by weight of a mixture of 50% by weight of a sodium soap of cottonseed oil and 50% by weight of a sodium soap of soyabean oil in 50 to 60 parts water by weight.

15 parts by weight of the above aqueous vegetable oil soap is added to 85 parts by weight of raw tung oil.

EXAMPLE 2

10 parts by weight of the aqueous vegetable oil soap of Example 1:

5 parts by weight of refined cottonseed oil
5 parts by weight of refined linseed oil
80 parts by weight of raw tung oil.

The ingredient of both examples were vigorously stirred for several minutes to produce an eggshell-white, creamy emulsion. However beating, shaking or the use of a colloid mill or homogenizing machine will also produce a satisfactory emulsion lotion.

A composition useful as a shampoo is made by adding 50–75 by weight of water to the vegetable oil emulsion lotion.

The above examples are merely illustrative of suitable compositions and are not intended as limitations in the scope of the invention.

I claim:

1. A liquid composition suitable for lotions and shampoos consisting essentially of an emulsion of raw tung oil in an aqueous solution of a sodium soap of a vegetable oil the vegetable oil soap being present in at least 2% by weight of the raw tung oil.

2. The composition of claim 1 wherein the vegetable oil soap is present in from 2%–10% by weight of the tung oil and soap content.

3. The composition of claim 1 wherein the vegetable oil soap is a mixture of soaps of cottonseed oil and soyabean oil.

4. The composition of claim 1 wherein the raw tung oil is in 75–85 parts by weight and the aqueous solution of vegetable oil soap is 15–25 parts by weight of vegetable

oil soap solution, said soap solution containing 70%–85% by weight of water and the remainder soap.

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