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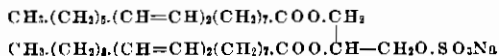
PRODUCTION OF VITAMIN-F PREPARATIONS

Felix Grandel, Emmerich/Rhein, Germany;
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No Drawing. Application filed September 25, 1940

In my copending application for Letters Patent Serial No. 275,543 I have described a process for the production of durable and highly efficient Vitamin-F-preparations, characterized in that unsaturated carboxylic acids containing two or more conjugated double linkages in the molecule, or their dissociable derivation, or mixtures of such compounds, are diluted with solid or liquid substances.

I have now discovered that not only the fractions of unsaturated carboxylic acids containing two or more conjugated double linkages in the molecule, and their stereoisomeric forms and the dissociable derivations thereof, when diluted, have a highly intensified power of Vitamin-F effectiveness, as compared with that possessed by the 9,10 linoleic acid, but that this fact also applies to any hydrolysable compounds of the aforementioned classes of substances, e. g. the salts (soaps) of the above mentioned carboxylic acids. The same also applies to fatty acids with two or more conjugated double linkages, which at the same time are capable of both hydrolysis and dissociation, such as for instance the sodium salt of the sulphacid 9,11 glyceride of octadecadiene acid:



These compounds with conjugated double linkages in the molecule, which are either hydrolysable, or are both hydrolysable and dissociable, in biological tests, if used pure, i. e. concentrated, display a toxic effect, whereas, surprisingly, they are not only deprived of these detrimental qualities, but also can be transformed into highly efficient Vitamin-F-preparations, if they are diluted with either solid or liquid substances, as described under the process of my copending application.

The aforementioned compounds with hydrolysable, or both hydrolysable and dissociable, conjugated systems in the molecule, display, moreover, an excellent emulsifying effect, wherefore they are particularly well adapted to be used for the preparation of oil-in-water, or water-in-oil emulsions, though for this purpose, it is advisable to disacidify and polymerise them.

It has furthermore been found that in the use of the free acids, and in particular in cases, where such compounds of the fatty acids are used, as are dissociable or hydrolysable, or both dissociable and hydrolysable, it is preferable, in order to stabilize the biological effect, to provide

them with admixtures soluble in them and counteracting oxydation, especially with tocopherols (Vitamin-E) and/or with the natural substances containing Vitamin-E, e. g. germ-oils.

With this emulsifier, either alone, or in combination with the already known emulsifiers (e. g. such as are prepared on the basis of lanolin-alcohol, albumen-fatty-acid condensation products, albumen-emulsifiers) it will then also be possible to prepare stable and effective Vitamin-F emulsions. The importance of the fact that antioxydising substances, tocopherols and germ-oils containing Vitamin-E, or similar substances, are also used in addition, is that the hydrolysable, or both hydrolysable and dissociable, compounds with conjugated binary linkages as a characteristic feature of their constitution, are protected in the emulsion—if finely dispersed in water or the like—from a premature hydrolysis and from any oxydation and condensation resulting in biological ineffectiveness. In this manner it is possible to obtain preparations possessing a high biological effect, which can be prepared in accordance with the following prescriptions:

EXAMPLES

1. *Skin oil, containing about 2,000 Sheperd-Linn units of Vitamin-F per g (based on dry substance)*

9,11 glycerine of octadecadienic acid (disacidified and polymerised).....	1.0
Germ-oil of wheat with high Vitamin-E contents biologically tested.....	1.0
Fatty alcohol of Spermaceti.....	25.0
Paraffine oil.....	23.0
Distilled water.....	50.0
A little quantity of perfume.	

In the preparation of this skin oil it is essential that first of all the fatty ingredients are thoroughly mixed, and that the emulsifying action with water is only carried out thereafter. It is preferably to admix the scenting substance to the finished emulsion.

2. *Anti-sun-burning oil, containing about 1,000 Sheperd-Linn units of Vitamin-F per g (based on dry substance)*

Glycerine ester of Lican acid (disacidified).....	0.5
Germ-oil of wheat with high Vitamin-E contents, biologically tested.....	55.5
Paraffine oil.....	40.0
"Antisolair" (L. Givaudan & Co., A.-G., Vernier-Geneva, Switzerland).....	4.0
A certain quantity of perfume.	

3. Cold cream (skin food)

Bees' ware (cera alba)-----	9.0
9,11 glycerine ester of octadecadiene acid (disacidified and polymerized)-----	9.0
Ceresine (paraffinum sodium)-----	2.0
Paraffine oil (German Pharmacopoeia VI)---	55.0
Distilled water-----	24.0
Perfume -----	0.5
Borax (purest quality)-----	0.25
Cetylic alcohol (about 18,000 Sh-L-units per g (based on dry substance)-----	0.25

The cream is manufactured in such a way that

wax, ceresine, paraffine oil, cetylic alcohol, are molten in a water-bath at 60 centigrades together with the 9,11 glycerine ester of octadecadiene acid. Thereupon perfume is added to this homogeneous molten mass, whereafter the stirring operation is further carried on, until the cream has become stable, which fact will have been brought about at ca 45 centigrades. Thereafter the creamy substance is poured out.

10 In this water-oil emulsion the ester acts as a biologically active emulsifier.

FELIX GRANDEL.