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READILY DISPERSIBLE COCOA COMPOSITIONS CONTAINING DIOCTYL SODIUM SULFOSUCCINATE

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13 Claims

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ABSTRACT OF THE DISCLOSURE

Readily dispersible cocoa compositions are provided containing from 0.05 to 0.75% by weight dioctyl sodium sulfosuccinate. The cocoa compositions can be prepared by mixing cocoa powder with a solvent solution containing the desired amount of dioctyl sodium sulfosuccinate, and then drying the mixture to evaporate the solvent. The cocoa compositions are useful in the preparation of reconstitutable chocolate drink products.

This application is a continuation-in-part of my copending application Ser. No. 576,204, filed Aug. 31, 1966, now abandoned.

This invention relates to cocoa compositions having improved qualities of dispersion. More particularly, the invention relates to readily dispersible cocoa compositions containing dioctyl sodium sulfosuccinate, reconstitutable chocolate drink products prepared from the cocoa compositions, and to a method for preparing the cocoa compositions.

Cocoa is obtained from the roasted, cured kernels of ripe seeds of *Theobroma Cacao* Linne, and other species of *Theobroma*. The roasted kernels are ground to a smooth paste to produce plain chocolate having a high fat content and the chocolate is then passed through filter presses to remove part of the fat, and thereafter the resulting press cake is pulverized to obtain a fine cocoa powder.

The cocoa powder is brownish in color having a chocolate odor and taste, and can be used directly as a food-stuff or as a flavoring agent. A reconstitutable chocolate drink product, for example, is prepared essentially from cocoa powder and a sweetening agent. The chocolate drink product may also include other ingredients as milk solids, vitamins, iron salts, or other flavoring agents such as ground spice, vanilla bean, vanillin, coumarin, salt, and the like.

Cocoa powder, however, is an inherently difficult material to disperse in a liquid medium, particularly cold water or milk, and has a slow rate of solution because the oily cocoa particles tend to agglomerate and form clumps that float on the surface and resist wetting by the liquid. Violent agitation or mechanically breaking up the floating cocoa is necessary to blend the cocoa particles with the liquid which is both time consuming and inconvenient to the consumer.

In the past, therefore, many wetting or dispersing agents have been compounded with the cocoa particles to improve their dispersion qualities in cold water or milk. Lecithin, for example, one of the most effective dispersing agents for cocoa, has long been used with cocoa powder in the preparation of reconstitutable chocolate drink products, but its effectiveness as a dispersant is very short lived and, consequently, lecithinated cocoa has a very short shelf life. Other common food surfactants which may be more stable than lecithin, such as sorbitan monopalmitate, propylene glycol monostearate, and the like, have also been used with cocoa powder, but these sur-

factants are limited in effectiveness compared to lecithin and have generally proven too costly for widespread commercial acceptance.

The compounding of the cocoa powder with sugar in the preparation of reconstitutable chocolate drink products, tends to reduce agglomerate formation somewhat by separating the cocoa particles but the necessity of using sugar to achieve increased dispersibility has, to a large extent, prevented the successful formulation of a dietetic reconstitutable chocolate drink product.

It is therefore a primary object of this invention to provide a new and improved, readily dispersible cocoa composition.

Another object of this invention is to provide a readily dispersible cocoa composition for use in the preparation of reconstitutable chocolate drink products that has an increased rate of dispersion over prior art chocolate drink products when dissolved in cold water or milk.

Still another object of this invention is to provide a process for preparing a readily dispersible cocoa composition containing an improved surface active agent for the cocoa.

Additional objects and advantages will be set forth in part in the description which follows and in part will be obvious from the description or may be learned by practice of the invention, the objects and advantages being realized and attained by means of the compositions, processes, and improvements particularly pointed out in the appended claims.

To achieve the foregoing objects and in accordance with its purpose, the invention as embodied and broadly described provides a readily dispersible cocoa composition containing cocoa powder and from about 0.05 to 0.75% dioctyl sodium sulfosuccinate based on the weight of the cocoa.

The invention further provides a process for preparing a readily dispersible cocoa composition which comprises mixing cocoa powder with from 0.05 to 0.75% dioctyl sodium sulfosuccinate, based on the weight of the cocoa, dissolved in a solvent solution, and drying the mixture to evaporate the solvent.

It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory but are not restrictive of the invention.

The cocoa powders that are useful in preparing the cocoa compositions of this invention are generally classified into three (3) categories on the basis of their fat content. Breakfast cocoa, or high fat cocoa, for example, generally contains above about 22% fat; cocoa or medium fat cocoa generally about 10 to 22% fat; and low fat cocoa less than about 10% fat. The term "cocoa," therefore, as it is used throughout the specification and claims is intended to include cocoa powder having any fat content.

In accordance with the invention, cocoa compositions are prepared containing a cocoa powder and nontoxic amounts of dioctyl sodium sulfosuccinate as an improved surface active agent for the cocoa. While surface active agents, in general, are known to reduce the surface tension of a liquid in which a substance is dissolved and other surface active agents have been used in the past in attempts to improve the dispersibility of cocoa powder, it has been unexpectedly found that dioctyl sodium sulfosuccinate is far superior in this respect to other surface active agents when used in combination with cocoa powders.

It has been found, for example, that dioctyl sodium sulfosuccinate greatly reduces the tendency of the finely divided cocoa particles to agglomerate, and this inhibition of agglomerate formation results in a far superior rate of dispersion achieved by the cocoa compositions of this