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(54) **PRODUCT USEFUL FOR OBTAINING CLEANING PRODUCTS FROM VEGETABLE OILS AND PRODUCTION METHOD THEREOF**

(57) The present invention relates to a product for obtaining cleaning products from vegetable oils comprising the following composition in % by weight: 2-7% sodium dodecyl sulphate; 3-4% anhydrous trisodium phosphate; 0.05-0.3% sodium stearate; 0.3-0.7% xanthan gum; 2-5% perfume; and water until reaching 100%; wherein the perfume comprises between 15-40% of a component that is a benzene ring having a C₁-C₆ alkyl

group bound with an alcohol, acetate, aldehyde functional group or mixtures thereof, and wherein the pH of the product is comprised between 9 and 12, or alternatively, the product is a solid with the same components and proportions between them as the liquid formulation except that it does not contain water. Its method of preparation and use in a process for obtaining cleaning products also form part of the invention.

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Description

[0001] The present invention relates to a product that is useful for obtaining cleaning products such as soaps, floor cleaners, dishwashing liquids, detergents, and the like, from vegetable oil, preferably used, to be able to effectively recycle said product, as well as the production method thereof.

BACKGROUND ART

[0002] Making homemade soap is a simple manner to reuse a by-product at home such as used vegetable oils, by using them as raw material for manufacturing our own soap. A product that is ecological and sustainable is obtained, whereby not only we are responsible with the environment but it also entails economic savings.

[0003] Bearing in mind that the average Spanish family generates an average of 10 litres of used oil every year, and one litre of oil contaminates one thousand litres of water, recycling said oil would stop polluting more than 0.8 m³ of water per month.

[0004] It is known that saponification is resolved by means of using sodium hydroxide, potassium hydroxide or a strong base, with the environmental and health risks (corrosion and release of harmful vapours) that it can have on people.

[0005] Substituting soda and potash in saponification with sodium salts of phosphoric acid has also been known for a long time, as in the case of patent ES0184980; however, saponification performance is limited when used with used vegetable oils and the result is not the desired one.

[0006] Patent document US4806269A discloses a method for obtaining soap from used cooking oils. Said method can be carried out by a consumer easily and with a high level of safety since strong bases such as sodium hydroxide are not involved, but rather a formulation is used the components of which include sodium phosphate in addition to other additives. This patent relates to solid products that are mixed together with water and oil and cooking is required to obtain the soap. Patent document SU878779B also discloses a method for the saponification of used vegetable oil by treating it with sodium phosphate. In this case, cooking is also required to obtain the soap.

[0007] Document ES2650446B2 describes a formulation for the treatment of vegetable oils comprising sodium phosphate as a saponifying agent, as well as other components such as sodium stearate and xanthan gum, wherein in the method for obtaining the soap heating the mixture of oil and the saponifying formulation is not required. However, the transformation speed is a bit slow and only allows small volumes of vegetable oil to be treated.

[0008] Lastly, document WO 2021191478A1 describes a concentrated formulation for the treatment of oils that uses anhydrous trisodium phosphate instead of

monosodium phosphate and a higher percentage of xanthan gum with respect to the formulation of ES2650446B2 and that allows larger volumes of oil to be treated with greater cleaning power.

[0009] Despite what is known in the state of the art, there is still a need to provide ecological and sustainable formulations for soap preparation that are stable, provide a pleasant aroma, and meet the requirements of the current legislation of the European REACH.

SUMMARY OF THE INVENTION

[0010] The inventors found that a formulation comprising a perfume with a component that is a benzene ring having a C₁-C₆ alkyl group bound with an alcohol, acetate and/or aldehyde functional group can incorporate an amount of up to 5% of said perfume without negatively affecting stability, at the same time that it allows having a concentration of trisodium phosphate and sodium dodecyl sulphate (SDS) such that classifying the formulation as corrosive or hazardous according to the European REACH is not required, achieving high effectiveness or performance.

[0011] Unlike what happened when other perfumes were incorporated into the formulation of the product for obtaining the soaps of the present invention, by incorporating the perfume used in the present invention for the preparation of soap, said product showed high stability. Furthermore, the use of the perfume according to the present invention has the additional advantage that it is non-allergenic. For example, when a perfume with a limonene content of around 50-55% was added, the product for obtaining soap formulated with the rest of the ingredients and components of the present invention but with said perfume was not stable and there was phase separation between the oily phase and the aqueous phase. Similarly when using a perfume with a 10-20% 1-methyl-4-isopropyl-1-cyclohexene-8-ol content, 5-10% 2,6-dimethyl-7-octen-2-ol content, the product for obtaining soap formulated with the rest of the ingredients and components of the present invention but with said perfume was not stable either and phase separation occurred.

[0012] Likewise, the product for the preparation of soaps of the present invention provides a means that allows a good conversion ratio of oil into soap such that the amount of product to be used is minimised, with minimum energy use. Specifically, the novel product for the preparation of soaps allows between 15-20% more oil to be treated than the product described in ES2650446B2, due to the combination of components, selection of the type of perfume that is incorporated into the formulation for preparing soap, component percentages, and pH of the formulation of the present invention that is equal to or less than 12.

[0013] Regarding the product for preparing soap described in WO2021191478A1, which is more concentrated than that of ES2650446B2 and differs in some of the

components with respect to this application, the product for the preparation of soaps of the present invention manages to incorporate the perfume in the formulation and by using a lower concentration of anhydrous trisodium phosphate and SDS, whereby classifying the formulation as corrosive or hazardous according to the European REACH is not required.

[0014] Both document ES2650446B2 and document WO 2021191478A1 describe products for the preparation of soaps that have a pH greater than 13, while the pH of the product for the preparation of soaps of the present invention has a pH equal to or less than 12.

[0015] In that sense, a first aspect of the present invention relates to a product for obtaining cleaning products from vegetable oils, characterised in that it comprises the following composition in % by weight: an aqueous solution of sodium dodecyl sulphate (SDS) in an amount of between 2 and 7%; anhydrous trisodium phosphate in an amount between 3 and 4%; sodium stearate in an amount between 0.05 and 0.3%; xanthan gum in an amount between 0.3 and 0.7%; a perfume in an amount between 2 and 5% having a pH between 6 and 8; and the amount of water required to reach 100% whereby a liquid formulation is obtained; wherein the perfume comprises a component that is a benzene ring which has bound thereto, in a position of the ring, a C₁-C₆ alkyl group containing a functional group selected from the group consisting of alcohol, acetate, aldehyde and mixtures thereof, wherein said component is found in an amount of between 15-40% by weight with respect to the total components of the perfume; and wherein the pH of the product is comprised between 9 and 12; or alternatively, the product for obtaining cleaning products is a solid with the same components and proportions (ratios) between them as the liquid formulation, except it does not contain water. The water in this formulation is removed once the liquid formulation is prepared, in general, before adjusting the content of the formulation to 100% with additional water.

[0016] The inventors also found that the incorporation of sodium dodecyl sulphate (SDS) in liquid form to the product of the invention for the preparation of soap allows a better dissolution during the preparation of the product, being able to reduce the amount thereof to even a concentration of about 2-3% by weight, with additional advantages when using said product, such as less foam production, which for example means better behaviour when used in a dishwasher, while a high amount of used oil is recycled. Likewise, the inventors observed that by using liquid SDS heating the mixing cyclone or reactor throughout the process is not required since all the components dissolve at room temperature, with the consequent reduction of the CO₂ footprint and energy cost, so the fact that the method can be carried out at room temperature entails important advantages at the industrial level.

[0017] In that sense, another aspect of the present invention relates to a method for obtaining a cleaning prod-

uct from vegetable oils as defined above, characterised in that it comprises the following operational steps: 1. On water at room temperature and under stirring, adding xanthan gum until dissolved; 2. Adding the sodium stearate with stirring; 3. Adding the trisodium phosphate with stirring; 4. Adding the SDS, optionally in the form of an aqueous solution, and with stirring; 5. Adding the perfume with stirring; and 6. Weighing the final product and adding the water until it reaches 100%, whereby a product in liquid form is obtained; or alternatively, the water from step 5 is removed, whereby a solid is obtained. The product thus obtained (whether it is obtained in liquid or solid form) is stored until use thereof.

[0018] The product of the invention is applicable indistinctly to both small and large volumes of oil to be treated. Likewise, it allows maximising the speed of transformation of oil into soap, making it easier for the user to obtain soap by avoiding having to heat the mixture and the gases that can be released during cooking, which makes it easier to manage at the domestic level, its use not entailing any risk to people's health. From this formulation it is possible to substantially increase the conversion ratio; specifically, it can be obtained in an oil/formulation (v/w) ratio of, for example, 0.35.

[0019] In that sense, another aspect of the present invention relates to a method for obtaining cleaning products from vegetable oils, characterised in that it comprises the following operational steps: a) Pouring the product for obtaining cleaning products as defined above at room temperature into a reactor, in an appropriate oil/product ratio; b) Pouring the corresponding proportion of oil under intense stirring; and c) Leaving under intense stirring the minimum time required to form the cleaning product wherein the product for obtaining cleaning products is used in liquid form, whereby if it is in the form of a solution it is poured directly into the reactor and if it is in a solid form it is reconstituted with water before pouring it into the reactor.

[0020] Throughout the description and the claims, the word "comprises" and its variants do not intend to exclude other technical features, additives, components or steps. Furthermore, the word "comprises" includes the case of "consists of". For those skilled in the art, other objects, advantages and features of the invention may be partially deduced from both the description and the embodiment of the invention. The following examples and drawings are provided by way of illustration, and are not intended to limit the present invention. The numerical signs related to the drawings and placed between parentheses in a claim are only to try to better understand the claim, and they should not be interpreted as limiting the scope of protection of the claim. Furthermore, the present invention covers all possible combinations of particular and preferred embodiments indicated herein.

DETAILED DESCRIPTION OF THE INVENTION

[0021] As described above, the product for obtaining

cleaning products from vegetable oils comprises the following composition in % by weight: sodium dodecyl sulphate (SDS) in an amount between 2 and 7%; anhydrous trisodium phosphate in an amount between 3 and 4%; sodium stearate in an amount between 0.05 and 0.3%; xanthan gum in an amount between 0.3 and 0.7%; a perfume in an amount between 2 and 5%; the amount of water required to reach 100% whereby a liquid formulation is obtained; wherein the perfume comprises a component that is a benzene ring which has bound thereto, in a position of the ring, a C_1-C_6 alkyl group containing a functional group selected from the group consisting of alcohol, acetate, aldehyde and mixtures thereof, wherein said component is found in an amount of between 15-40% by weight with respect to the total components of the perfume. Said perfume has a pH between 6 and 8, so that the final pH of the product for obtaining soaps turns out to be equal to or less than 12, particularly, between 9 and 12. Alternatively, the product for obtaining cleaning products is a solid with the same components and proportions (ratios) between them as the liquid formulation, except it does not contain water.

[0022] In a particular embodiment, the product for obtaining cleaning products from vegetable oils is that which has a pH between 11 and 12. In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that which has a pH between 11 and 12. In another particular embodiment, the product is that which has a pH between 11.5 and 12. The determination of the pH can be carried out by means of colorimetric methods with indicators (reactive strips), or by means of potentiometric methods (pH meter).

[0023] In a particular embodiment, the perfume has a pH around neutral pH, specifically between 6 and 8, preferably between 7-8, and more preferably between 7-7.5.

[0024] In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the perfume component, which is a benzene ring having bound thereto, in a position of the ring, a C_1-C_6 alkyl group containing a functional group selected from the group consisting of alcohol, acetate, aldehyde and mixtures thereof is in an amount of between 20-30% by weight with respect to the total perfume.

[0025] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the functional group in said perfume component is alcohol and said alcohol is a terminal alcohol bound to the C_1-C_6 alkyl group. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein said perfume component is selected from the group consisting of phenethyl alcohol, benzyl acetate, benzyl alcohol, methyl benzoate and mixtures thereof.

[0026] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the perfume comprises phenethyl alcohol.

[0027] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the perfume further comprises an amount of between 0.5-1.5% by weight of other aromas with respect to the total weight of the perfume and the amount of water required to reach 100% by weight. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the perfume further comprises an amount of around 1% by weight of other aromas with respect to the total weight of the perfume and the amount of water required to reach 100%. Examples of suitable aromas are 3,7-dimethyl-1-octanol; 4-t-butylcyclohexyl acetate; or 2,4-dimethyl-3-cyclohexene-1-carboxaldehyde.

[0028] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the perfume is in an amount comprised between 3-5% by weight with respect to the total weight of the product for the preparation of soap. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the perfume is in an amount comprised between 3-4% by weight with respect to the total weight of the product for obtaining soap. These percentages are given with respect to the product in liquid form.

[0029] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the xanthan gum content is between 0.4-0.6% by weight with respect to the total weight of the product. In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the xanthan gum content is between 0.5-0.6% by weight with respect to the total weight of the product. In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the xanthan gum content is 0.55% by weight with respect to the total weight of the product. These percentages are given with respect to the product in liquid form.

[0030] In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the sodium dodecyl sulphate content is between 2.5-4% by weight with respect to the total weight of the product for obtaining soap. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein the sodium dodecyl sulphate content is around 3% by weight with respect to the total weight of the product. These percentages are given with respect to the product in liquid form. The use of anhydrous trisodium phosphate contributes to having a good efficiency in the process of transforming oil into soap, which is higher than when other phosphates such as monosodium phosphate are used. In a particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the anhydrous triso-

dium phosphate content is between 3 and 3.5% by weight with respect to the total weight of the product. These percentages are given with respect to the product in liquid form.

[0031] In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the sodium stearate content is between 0.1 and 0.3% by weight with respect to the total weight of the product. In another particular embodiment, the product for obtaining cleaning products from vegetable oils is that wherein the sodium stearate content is between 0.1 and 0.2% by weight with respect to the total weight of the product. These percentages are given with respect to the product in liquid form.

[0032] The present formulation is useful to obtain different types of cleaning products, such as soaps, floor cleaners, dishwashing liquids, detergents and the like, so that rinse aid can be added to this formulation (product for obtaining soaps) depending on the specific application envisaged, and this component can be added both to the previous product or, in the event that same does not include a rinse aid, this component can be added when the cleaning product is prepared from the product not containing rinse aid. In that sense, in a particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that wherein when the formulation does not contain rinse aid, the water content is greater than 85% by weight with respect to the total product, preferably greater than 87% by weight, and more preferably equal to or greater than 90% by weight. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that which contains rinse aid in a percentage by weight between 3 and 5% by weight with respect to the total product. In another particular embodiment, the product for obtaining cleaning products from vegetable oils according to the invention is that which contains rinse aid in a percentage by weight of around 2% with respect to the total weight of the product. These percentages are given with respect to the product in liquid form. In another particular embodiment, the rinse aid is a hydrolysed protein. This has the advantage that it is biodegradable and contributes to it being environmentally friendly.

[0033] The product for obtaining cleaning products from vegetable oils as defined above can be prepared by means of a method that is characterised in that it comprises the following operational steps: 1. On water at room temperature and under stirring, adding xanthan gum until dissolved; 2. Adding the sodium stearate with stirring; 3. Adding the trisodium phosphate with stirring; 4. Adding the SDS, optionally in the form of an aqueous solution, and with stirring; 5. Adding the perfume with stirring; 6. Weighing the final product and adding the water until it reaches 100%, whereby a product in liquid form is obtained; or alternatively, the water from step 5 is removed, whereby a solid is obtained. The product thus obtained can be stored until its use.

[0034] In the event that the product comprises a rinse aid, same can be added before or after adding the perfume.

[0035] In a particular embodiment, the method for obtaining a product for obtaining cleaning products from vegetable oils according to the invention is that wherein sodium dodecyl sulphate is added in the form of a solution and which has a sodium dodecyl sulphate concentration of between 10-40% by weight. In another particular embodiment, the method for obtaining a product for obtaining cleaning products from vegetable oils according to the invention is that wherein sodium dodecyl sulphate has a sodium dodecyl sulphate concentration of between 10-30% by weight. In another particular embodiment, the method for obtaining a product for obtaining cleaning products from vegetable oils is that wherein the sodium dodecyl sulphate solution has a sodium dodecyl sulphate concentration of between 20-25% by weight.

[0036] In another particular embodiment, the method for obtaining a product for obtaining cleaning products from vegetable oils is carried out at room temperature with the consequent reduction in energy costs. Room temperature is understood to be a temperature comprised between 20-30°C, generally between 20-25°C.

[0037] By way of example, the manufacturing time of 1000 litres of product can be around 45'.

[0038] When the product for obtaining soap is obtained in solid form, it can be in powder form or it can be processed to form bars: To get it in powder form, the removal of water in step 6 can be carried out by known methods such as centrifugation and drying or in a spray tower. The preparation of bars from the powder can be carried out by means of conventional methods. Making the product available in a solid form presents advantages in terms of logistics and transportation costs. When it is to be used for the preparation of soap, it is dissolved in water in the same proportion as indicated in point 6 of the method for the preparation of the product in liquid form. The percentages of each of the components are the same as those which are given with respect to the product in liquid form.

[0039] Also part of the invention is the method for obtaining cleaning products from vegetable oils which, as indicated above, is characterised in that it comprises the following operational steps: a) pouring the product for preparing the cleaning product of the present invention in liquid form as described above at room temperature in a reactor, in an appropriate oil/product ratio; b) pouring the corresponding proportion of oil under intense stirring; and c) leaving under intense stirring for the minimum time required to form the cleaning product. The stirring method speeds up the conversion process without the need for heat input.

[0040] In the event that the product for obtaining the cleaning product is in powder form, it is reconstituted with water before it is used to obtain soap so that the same percentages indicated above for each of the components and for water for the product in liquid form are obtained.

[0041] In a particular embodiment, the oil/product ratio

(v/w) is equal to or less than 0.5. In another particular embodiment, the oil/product (v/w) ratio is equal to or less than 0.36 (210/585 ratio). In another particular embodiment, the oil/product (v/w) ratio is equal to 0.35.

[0042] In a particular embodiment, the method for obtaining cleaning products from vegetable oils according to the invention is that wherein the time of step c) is comprised between around 0.1' and 10'. The time depends on the amount of soap to be prepared.

[0043] In a particular embodiment, the method for obtaining cleaning products from vegetable oils according to the invention is that which is characterised in that it further comprises an additional step in which the water is completely removed, whereby a solid soap is obtained, for example, in the form of a soap bar.

[0044] In another particular embodiment, the method for obtaining cleaning products from vegetable oils according to the invention is that which is characterised in that the product that does not contain rinse aid is used, and depending on the type of cleaning product to be obtained, after step c), rinse aid is added with stirring. In another particular embodiment, the method is that which uses a product for obtaining cleaning products from vegetable oils which contains rinse aid in a percentage by weight of less than 3%. In a particular embodiment, the percentage by weight of rinse aid is between 1.5 and 2.5%. These percentages are given with respect to the product in liquid form.

[0045] Throughout the description and the claims, the word "comprises" and its variants do not intend to exclude other technical features, additives, components or steps. Furthermore, the word "comprises" includes the case of "consists of". For those skilled in the art, other objects, advantages and features of the invention may be partially deduced from both the description and the embodiment of the invention. The following examples are provided by way of illustration and are not intended to limit the present invention. Furthermore, the present invention covers all possible combinations of particular and preferred embodiments indicated herein.

EXAMPLES

[0046] Different formulations and methods for manufacturing the formulation and obtaining soap are disclosed below. The percentages of the components are by weight relative to the total weight of the composition.

Example 1: Preparation of a product for obtaining a cleaning product (200 litres of soap) according to the invention

[0047] We started with the following components (% by weight):

- SDS (3%) 3 kg (as an aqueous solution at 20%): 15Kg of aqueous solution at 20% by weight
- Trisodium phosphate (3.2%): 3.2 Kg (solid)
- Sodium stearate (0.1 %) 0.1 kg (solid)

- Xanthan Gum (0.55%) 0.55 kg (solid)
- Perfume (3%): 3 Kg
- Water up to 100kg

5 Total product: 100 Kg.

[0048] The perfume comprises between 20-30% phenethyl alcohol, and 1% aromas, and the rest is water.

[0049] Method for preparing the product (100 kg)

- 10 1- On water at room temperature and under stirring, the xanthan gum was added until it dissolved;
- 2- The sodium stearate was added with stirring;
- 3- The trisodium phosphate was added with stirring;
- 4- The SDS was added with stirring;
- 15 5- The perfume was added with stirring;
- 6- The final product was weighed and the water was added until reaching 100 final Kg;
- 7- The product was stored.

20 **[0050]** Comparative example 1 using other perfumes that do not form part of the invention

[0051] The same method described above was repeated but using a perfume with a limonene content of around 50-55%.

25 **[0052]** The product for obtaining soap formulated with the rest of the ingredients and components of the present invention but with said perfume was not stable and there was phase separation between the oily phase and the aqueous phase.

30 **[0053]** Similarly when using a perfume with a 10-20% 1-methyl-4-isopropyl-1-cyclohexene-8-ol content, 5-10% 2,6-dimethyl-7-octen-2-ol content, the product for obtaining soap formulated with the rest of the ingredients and components of the present invention but with said perfume was not stable either and phase separation occurred.

Example 2: Preparation of a cleaning product from the product of Example 1

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[0054] The following ingredients were added during preparation of the soap:

- Oil: 35 litres (liquid).

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- 1- At room temperature, the 100 Kg of concentrated product were poured into the reactor;
- 2- The 35 litres of oil were poured under intense stirring;
- 3- It was left under intense stirring for 10 minutes;
- 4- The rinse aid was added with stirring;
- 5- The product was stored.

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Oil/product ratio: 35/100= 0.35

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Comparative example 2: Example of patent
ES2650446B2

[0055] We started with the following components:

- Water (89.7%)
- Monosodium phosphate: 3.2%
- Sodium stearate: 0.1%
- Xanthan gum: 0.2%
- Sodium lauryl sulphates (SDS): 6.4%

[0056] The following components were added during preparation of the soap

- Perfume (0.4%)
- 29 litres (liquid)

[0057] Oil/product ratio of 3/10, more precisely 2.9/10=0.29

[0058] In this example the perfume was added separately during preparation of the soap. The pH of this formulation is greater than 13. The preparation is described in patent ES2650446B2.

Example 3: Comparison of the cleaning power of the
product of Example 2 with soap obtained with soda

[0059] The performance is calculated from the cleaning power of the soap (volume of oil capable of dissolving). In that sense, performance is determined by studying how much oil the obtained soap can dissolve. It starts from a performance (cleaning power) of 100% with the soaps obtained with soda, which are those which dissolve the greatest amount of oil (reference soap). For example, a performance of 98% means that it dissolves 98% of the oil than soap made from soda would dissolve.

- Cleaning power of soap obtained with soda (reference): 100%
- Performance of the cleaning power of the soap of example 2 obtained with the product of example 1: 95%.

[0060] Good performance is achieved and the stability of this soap lasts months.

CITATION LIST

Patent literature

[0061]

- ES0184980
- US4806269A
- SU878779B
- ES2650446B2
- WO2021191478A1

Claims

1. A product for obtaining cleaning products from vegetable oils, **characterised in that** it comprises the following composition in % by weight:

- Sodium dodecyl sulphate (SDS) in an amount between 2 and 7%;
- Anhydrous trisodium phosphate in an amount between 3 and 4%;
- Sodium stearate in an amount between 0.05 and 0.3%;
- Xanthan gum in an amount between 0.3 and 0.7%;
- A perfume in an amount between 2 and 5% having a pH between 6 and 8;
- the amount of water required to reach 100% whereby a liquid formulation is obtained;

wherein the perfume comprises a component that is a benzene ring which has bound thereto, in a position of the ring, a C₁-C₆ alkyl group containing a functional group selected from the group consisting of alcohol, acetate, aldehyde and mixtures thereof, wherein said component is found in an amount of between 15-40% by weight with respect to the total components of the perfume:

and wherein the pH of the product is comprised between 9 and 12;
or alternatively, the product for obtaining cleaning products is a solid with the same components and proportions between them as the liquid formulation except that it does not contain water.

2. The product for obtaining cleaning products from vegetable oils according to claim 1, wherein said product has a pH between 11 and 12.

3. The product for obtaining cleaning products from vegetable oils according to any of claims 1-2, wherein said perfume component is in an amount of between 20-30% by weight with respect to the total weight of the perfume.

4. The product for obtaining cleaning products from vegetable oils according to any of claims 1-3, wherein the functional group in said perfume component is alcohol and said alcohol is a terminal alcohol bound to the C₁-C₆ alkyl group.

5. The product for obtaining cleaning products from vegetable oils according to any of claims 1-3, wherein said perfume component is selected from the group consisting of phenethyl alcohol, benzyl acetate, benzyl alcohol, methyl benzoate and mixtures thereof.

6. The product for obtaining cleaning products from vegetable oils according to any of claims 1-5, wherein the perfume further comprises a total amount of between 0.5-1.5% by weight of other aromas with respect to the total weight of the perfume and the amount of water required to reach 100%. 5
7. The product for obtaining cleaning products from vegetable oils according to any of claims 1-6, wherein the perfume is in an amount comprised between 3-4% by weight with respect to the total weight of the product when it is in liquid form. 10
8. The product for obtaining cleaning products from vegetable oils according to any of claims 1-7, wherein the xanthan gum content is between 0.5-0.6% by weight with respect to the total weight of the product when it is in liquid form. 15
9. The product for obtaining cleaning products from vegetable oils according to any of claims 1-8, wherein the sodium dodecyl sulphate content is between 2.5-4% by weight with respect to the total weight of the product when it is in liquid form. 20
10. The product for obtaining cleaning products from vegetable oils according to any of claims 1-9, further comprising rinse aid in a percentage by weight between 3 and 3.5% by weight with respect to the total weight of the product when it is in liquid form. 25 30
11. The product for obtaining cleaning products from vegetable oils according to claim 10, wherein the rinse aid is a hydrolysed protein. 35
12. A method for obtaining a product for obtaining cleaning products from vegetable oils as defined in any of claims 1-11, **characterised in that** it comprises the following operational steps: 40
1. On water at room temperature and under stirring, adding xanthan gum until dissolved;
 2. Adding the sodium stearate with stirring;
 3. Adding the trisodium phosphate with stirring;
 4. Adding the SDS, optionally in the form of an aqueous solution, and with stirring; 45
 5. Adding the perfume with stirring;
 6. Weighing the final product and adding the water until it reaches 100%, whereby a product in liquid form is obtained; or alternatively, the water from step 5 is removed, whereby a solid is obtained. 50
13. The method for obtaining cleaning products from vegetable oils according to claim 12, wherein sodium dodecyl sulphate is added in the form of a solution having a sodium dodecyl sulphate concentration of between 10-40% by weight with respect to the total 55

solution.

14. The method for obtaining cleaning products from vegetable oils, **characterised in that** it comprises the following operational steps:

- a) Pouring the product of any of claims 1-11 at room temperature into a reactor, in an appropriate oil/product ratio;
- b) Pouring the corresponding proportion of oil under intense stirring; and
- c) Leaving under intense stirring for the minimum time required to form the cleaning product;

wherein the product for obtaining cleaning products is used in liquid form, whereby if it is in the form of a solution it is poured directly into the reactor and if it is in a solid form it is reconstituted with water before pouring it into the reactor.

15. The method for obtaining cleaning products from vegetable oils according to claim 14, **characterised in that** it further comprises an additional step in which after step c) the water is completely removed, whereby a solid soap is obtained.



EUROPEAN SEARCH REPORT

Application Number

EP 23 16 6779

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