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(54) Title: A CLEANING AGENT LIQUID

(57) Abstract: The invention relates to the organic cleaning agent liquid, which, as a completely natural and organic product, provides the cleaning, odor and hygiene of the devices without causing sensitivity and allergies in the mouth.

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A CLEANING AGENT LIQUID

5 Technical Field

The invention relates to a cleaning agent liquid.

10 In particular, the invention relates to the organic cleaning agent liquid, which, as a completely natural and organic product, provides the cleaning, odor and hygiene of the devices without causing sensitivity and allergies in the mouth.

Background of the Invention

15 Microporosities occur as a result of errors in polymerization, leveling and polishing processes in removable dental devices, and small scratches and pits occur with the use of the device. These damaged areas and the crochet etc. contained in the devices. Components form suitable areas for the accumulation of nutrients and microorganisms. The use of removable devices in the mouth combined with improper
20 oral hygiene leads to the accumulation of microorganisms in the devices.

Increasing numbers of these microorganisms can cause local and systemic disorders such as enamel demineralization and gingival inflammation, halitosis (halitosis), candidiasis, respiratory airway diseases, cardiovascular and gastrointestinal
25 infections.

Cleaning of mobile devices can generally be done by mechanical and chemical methods. However, since the mechanical method is insufficient to remove the microorganisms accumulated in the retentive areas of the mobile devices, it is
30 recommended to be used together with chemical agents. Otherwise, even if the disinfectant is effective, discoloration and roughness due to organic load may reduce the effectiveness of the disinfection process after a while.

Today, the product range for chemical agents used in orthodontic removable appliance cleaning is wide. In order for the physician to recommend it to the patients, the areas where chemical and vegan cleaning agents are active and the mechanism of action should be known. It has been reported that organic acids have antimicrobial effects similar to other commercial chemical cleaners.

Vinegar with 4-5% acetic acid content, used for cleaning mobile devices, is a natural product. White vinegar, also known as vinegar spirit, is used in dentistry because it is transparent and inexpensive. Due to its acid feature, it is very effective in removing the tartar on the devices. Although there are studies in the literature that white vinegar has similar effects with sodium hypochlorite and chemical cleaning agents, there are also studies showing that white vinegar is not microbially effective.

It has been reported that food residues, bacterial plaque and dental calculus accumulated on the devices are an important factor in the formation of denture stomatitis and adversely affect the tissues. In addition to mechanical cleaning (brushing, ultrasonic cleaning) in removing the residues accumulated on the appliance, chemical cleaning methods are also frequently used to facilitate the cleaning process, especially in the elderly with weak motor skills.

In the chemical cleaning method, devices are generally used in solutions containing commercial alkaline peroxides (sodium perborate, potassium monopersulfate, sodium percarbonate), disinfectants (chlorhexidine glutaraldehyde, salicylate), dilute acids (hydrochloric and phosphoric acid), hypochlorites (trisodium phosphate with sodium) and enzymes. However, the effect of different solutions on prostheses is not known enough by the patient and the physician.

Transparent plaques or moving devices in patients begin to wear off after a while, and this manifests itself with the loss of appliance retention. As a result, devices have to be replaced sooner than necessary. Frequent replacement of these parts can be a financial and moral burden to the patient.

As a disadvantage, it has been reported in various studies that chemical agents (peroxide-containing cleaning solutions) may have physical, chemical and mechanical

negative effects on the metallic and/or acrylic parts of the devices (32, 38-40). However, it should be noted that the physical properties of different base materials are not equally affected by the effects of peroxide cleaning agents.

- 5 For this reason, it is necessary to examine the effect of organic cleaning solutions and to investigate the correct use.

Regarding the subject in the PCT application numbered WO2014169165 in the literature, " The present invention relates to dentifrice compositions, in particular,
10 toothpaste compositions, containing extracts of *Nigella sativa*, or black seed oil, and methods of preparing and using the same." statements are included.

In said application, dentifrice compositions containing NIGELLA SATIVA extracts and related methods are disclosed.

15 Again, in the patent application TR 2015 11100 in the literature, "The invention is a tooth cleaning solution in which an avulsed tooth is cleaned of residues or debris on it. As an innovation; It contains Hanks' balanced salt solution and propolis to prevent excessive inflammation of PDL cells on the root surface of the tooth." statements are
20 included.

In said embodiment, a dentifrice solution is also disclosed.

Again, in the European patent application numbered EP2713992B1 in the literature,
25 "The invention relates to dental care products containing carbonate-substituted fluoro-hydroxyapatite particles and a process for their preparation. More particularly, the invention relates to dental care products such as solutions, suspensions, oils, gels, pastes, dentifrices or other solid products containing carbonate-substituted fluoro-hydroxyapatite particles for dental hygiene." statements are included.

30 In said embodiment, dental care products containing carbonate-substituted fluoro-hydroxyapatite particles are disclosed.

Also in the literature, in the patent application numbered TR 95/01588, regarding the subject, "This invention is a dry sweetener powder system from about 0.1% to about 50% (this powder system is from about 0.01% to about 60% by weight or more sweetener and from about 40% to about 99.99% of one or more carriers) and from 5 about 50% to about 99% of a denture cleaner; wherein one or more of the flavors provided by the dry flavoring powder system are retained on the denture after cleaning with the sweetened denture cleaning composition." statements are included.

10 In the aforementioned patent application, sweetened denture cleaning compositions are disclosed.

For the reasons mentioned above, there was a need for a new cleaning agent liquid.

15 **Disclosure of the Invention**

Starting from this state of the art, the aim of the invention is to introduce a new cleaning agent liquid that eliminates the existing disadvantages.

20 Another aim of the invention is to present a structure that can be used in dentistry because it is transparent and inexpensive.

Another aim of the invention is to present a very effective structure in removing the debris and stone on the devices due to its acid feature.

25 Another aim of the invention is to present a tissue-friendly structure.

Detailed Description of the Invention

30 In this detailed explanation, the innovation that is the subject of the invention is only explained with examples that will not have any limiting effect for a better understanding of the subject.

The invention, as a completely natural and organic product, is an organic cleaning agent liquid that provides cleaning, odor and hygiene of devices without causing

sensitivity and allergies in the mouth, characterized in that; contains 10 – 14 grams of lemon salt, 0.5 – 1.5 grams of white vinegar and 1 – 5 grams of carbonate.

5 Lemon salt can be mixed with water as a mouthwash for tartar and oral care and applied regularly. Lemon salt is also known for its benefits for hair. For maintenance and repair, add 4-5 pieces of lemon salt to some water and boil it, wait for it to cool down. Massage this leaf into your hair, apply this water, wait for 10-15 minutes and rinse. When this process is applied regularly, the broken ends of the hair are repaired. Lemon salt cleans the intestines, kidneys and liver. It protects the body against
10 bacteria. It helps to remove kidney and gall bladder stones.

Lemon salt regulates blood pressure. The benefits of lemon salt on the skin are quite effective. By making a lemon salt mask, you can have a lively, natural and blemish-free skin. However, it can cause irritation on sensitive skin, which is among the harms
15 of lemon salt.

White vinegar is a transparent liquid substance like water. It is obtained by fermentation of agricultural products containing sugar. It contains 5% acetic acid as a chemical composition. It is completely natural.
20

Carbonate can be used for cleaning and hygiene of floor surfaces thanks to its antibacterial properties. It is an effective germ killer, at the same time it will keep insects and pests away from your places thanks to its smell.

25 In the first stage of the application of the invention, 10-14 grams of lemon salt, 0.5-1.5 grams of white vinegar, 1-5 grams of carbonate and 1-3 grams of St. John's Wort oil are weighed and heated by mixing on a platform with a temperature of 450C. At the end of this period, the liquid mixture is removed from the heat platform and cooled to room temperature while the mixing process continues.

30 Our organic mixture, which is supplied in ready-made packages with enough warm water to cover the dental prosthesis (apparatus), is brushed with this solution using a soft brush after waiting for 5 minutes.

The apparatus is thoroughly rinsed with running water, and the remaining solution is poured after using it.

In the preferred application of the invention, lemon salt is 12 grams, white vinegar is 1
5 gram, carbonate is 3 grams, St. John's Wort oil is 2 grams.

CLAIMS

1. The invention, as a completely natural and organic product, is an organic cleaning agent liquid that provides cleaning, odor and hygiene of devices without causing sensitivity and allergies in the mouth, characterized in that; contains 10 – 14 grams of lemon salt, 0.5 – 1.5 grams of white vinegar and 1 – 5 grams of carbonate.
2. A cleaning agent liquid according to claim 1; contains 1-3 grams of St. John's Wort oil.
3. A cleaning agent liquid according to any preceding claims, said lemon salt is 12 grams.
4. A cleaning agent liquid according to any preceding claims, said white vinegar is 1 gram.
5. A cleaning agent liquid according to any preceding claims, said carbonate is 3 grams.
6. A cleaning agent liquid according to any preceding claims, St. John's Wort oil is 2 grams.

INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
A61Q; A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	Natural Ways to Whiten Teeth https://davidsonorthodontics.com/natural-ways-to-whiten-teeth/ 23/08/2016 Accessed: 12/01/2023	1, 3-5 2, 6
Y	EP 0117905 A2 (THEILEMANN RETHETO FILMTECH [DE]) 12 September 1984 (1984-09-12) Abstract	2, 6
A	CN 107019662 A (WANG HONGZHU) 08 August 2017 (2017-08-08) The whole document	1-6
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