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(54) **METHOD FOR PREPARING GEL-STATE WATER SOLUBLE FLAVORING ESSENCE USED FOR CIGARETTE**

(57) A method for preparing water-soluble tobacco flavor in gel state is disclosed. The method includes the following steps: mixing food thickener with glycerol in a mass ratio of 1:50 to 1:5 and mixing to uniform, heating to a temperature of 80°C to 100 °C and keep stirring till dissolve thoroughly, homogenizing for 5 to 15 minutes, cooling to a temperature of 30°C to 50°C, adding water-soluble tobacco flavor and mixing to uniform, and placing

at least 12 hours at a temperature of 1°C to 30 °C to obtain a final product. The product obtained by the method can greatly inhibit volatilization of the tobacco flavor, maintain fragrance completely, reduce the loss caused by volatile components, and can be easily transported and stored.

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Description**FIELD OF THE INVENTION**

[0001] The present invention relates to the field of tobacco flavor, and more particularly to a method for making water-soluble tobacco flavor into gel state.

BACKGROUND OF THE INVENTION

[0002] Fragrance type and fragrance style of tobacco flavor determines, in a sense, the quality and taste of cigarette. Usually in the cigarette burning process, some organics with spicy taste will be generated. If some flavor is added into the cigarette, the spicy taste produced in the cigarette burning process will be concealed. Currently used tobacco flavor is mostly a direct extract in form of liquid, extractum or essential oil, which easily leads to the volatilization loss of fragrance.

[0003] In the cigarette manufacturing process, in order to improve the fragrance of cigarette, it's necessary to add tobacco flavor into cigarette raw materials artificially. A current method for adding flavor is to spray tobacco flavoring essence, which is dissolved in some solvents such as water, ethanol, glycerol, propylene glycol, etc., onto the cigarette raw materials. The disadvantage of such method is that some tobacco flavor with bad solubility cannot be uniformly dissolved in the solvent; therefore the tobacco flavor cannot be sprayed and added to the cigarette raw materials uniformly. Furthermore, since the tobacco flavor is liquid, the loss or change of fragrance is easily to be caused by volatilization. Atomized liquid for electronic cigarette is usually a liquid, so it is also easy to cause volatilization loss of fragrance. In current related technologies, there is few report on preparing tobacco flavor into gel state.

SUMMARY OF THE INVENTION

[0004] Based on the above, it is an object of the present invention to overcome the drawbacks of the prior technologies by providing a method for making water-soluble tobacco flavor into gel state, which can significantly improve fragrance retention of the tobacco flavor, and greatly reduce volatilization loss.

[0005] According to one aspect of the invention, a method for preparing a water-soluble tobacco flavor in gel state includes: mixing food thickener with glycerol in a mass ratio of 1:50 to 1:5, mixing to uniform, heating to a temperature of 80°C to 100°C and keep stirring till dissolve thoroughly, homogenizing for 5 to 15 minutes, cooling to a temperature of 30°C to 50°C, then adding water-soluble tobacco flavor, mixing to uniform, and placing at least 12 hours at a temperature of 1 to 30°C to obtain final product.

[0006] Preferably, the food thickener is sodium polyacrylate.

[0007] The significant advantages of preparing water-

soluble tobacco flavor into gel state are as follows:

(1) The water-soluble tobacco flavor is prepared into gel state in the present invention, which makes its use be easier and its package, shipping and store be more flexible.

(2) The water-soluble tobacco flavor is prepared into gel state in the present invention, which greatly improves the heat resistance, light resistance and oxygen resistance abilities of the tobacco flavor, and therefore avoids discoloration and fragrance change caused by outside influences like direct light, heat, etc.

(3) The water-soluble tobacco flavor is prepared into gel state in the present invention, which greatly inhibits the volatilization of the tobacco flavor, completely preserves the fragrance, and reduces the loss caused by some volatile components.

(4) The water-soluble tobacco flavor is prepared into gel state in the present invention, which improves the quality of the product, and increases the fragrance retention.

(5) The water-soluble tobacco flavor is prepared into gel state in the present invention, therefore the prepared product does not include water, and can be kept at a low temperature of -20°C without freezing.

(6) The present invention can be carried out with low cost, can easily obtain raw materials and relatively simple production process which is convenient to be actually implemented.

[0008] In addition, sodium polyacrylate can be dissolved in glycerol to form a very viscous and transparent liquid, of which the viscosity is due to ionic phenomenons of many anionic groups making molecular chain increase, and making apparent viscosity increase, so as to produce a high viscous solution, which, when stored for a long time, has a viscosity minimally changing over time.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS**Example 1 - Preparation of strawberry tobacco flavor in gel state**

[0009] 85g glycerol and 5g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 80°C to dissolve thoroughly, homogenized for 5 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 30°C, then added 10g strawberry flavor, stirred uniformly, and placed or 13 hours in a circumstance with a temperature of 18°C to obtain a final product.

Example 2 -Preparation of strawberry tobacco flavor in gel state

[0010] 25g glycerol and 5g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 90°C to dissolve thoroughly, and homogenized for 5 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 40°C, then added 10g strawberry flavor, stirred uniformly, and placed for 18 hours in a circumstance with a temperature of 18°C to obtain a final product.

Example 3 -Preparation of strawberry tobacco flavor in gel state

[0011] 250g glycerol and 5g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 100°C to dissolve thoroughly, and homogenized for 5 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 50°C, then added 10g strawberry flavor, stirred uniformly, and placed for 24 hours in a circumstance with a temperature of 18°C to obtain a final product.

Example 4 -Preparation of lemon tobacco flavor in gel state

[0012] 40g glycerol and 8g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 90°C to dissolve thoroughly, and homogenized for 10 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 30°C, then added 15g lemon flavor, stirred uniformly, and placed for 13 hours in a circumstance with a temperature of 15°C to obtain a final product.

Example 5 -Preparation of lemon tobacco flavor in gel state

[0013] 80g glycerol and 8g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 80°C to dissolve thoroughly, and homogenized for 10 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 35°C, then added 15g lemon flavor, stirred uniformly, and placed for 18 hours in a circumstance with a temperature of 15°C to obtain a final product.

Example 6 -Preparation of lemon tobacco flavor in gel state

[0014] 400g glycerol and 8g sodium polyacrylate were mixed and stirred uniformly, heated to a temperature of 100°C to dissolve thoroughly, and homogenized for 10 minutes to make the system more uniform. The mixture was stirred and at the same time cooled to a temperature of 50°C, then added 15g lemon flavor, stirred uniformly, and placed for 24 hours in a circumstance with a tem-

perature of 15°C to obtain a final product.

Claims

1. A method for preparing a water-soluble tobacco flavor in gel state, **characterized by** comprising:

mixing food thickener with glycerol in a mass ratio of 1:50 to 1:5 and mixing to uniform, heating to a temperature of 80°C to 100 °C and keep stirring till dissolve thoroughly, homogenizing for 5 to 15 minutes, cooling to a temperature of 30°C to 50°C, adding water-soluble tobacco flavor and mixing to uniform, and placing at least 12 hours at a temperature of 1°C to 30°C to obtain a final product.

2. The method of claim 1, **characterized in that** the food thickener is sodium polyacrylate.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2011/071440

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC A24B, C11B, A23L

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)

DWPI, CPRSABS, CNABS, CNTXT, CNKI, GOOGLE SCHOLAR: **flavor, fragrance, essence, perfume, cigarette, tobacco, glycerin, glycerol**

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN101633864A (CHINA TOBACCO GUANGDONG IND CORP), 27 Jan. 2010 (27.01.2010), whole document	1-2
A	CN101766332A (YUNNAN RES INST TOBACCO SCI), 7 July 2010 (07.07.2010), whole document	1-2

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

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The State Intellectual Property Office, the P.R.China
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2011/071440

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN101633864A	27/01/2010	none	
CN101766332A	07/07/2010	none	

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