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Aromatic Waters

Aromatic waters, also known as medicated waters, are clear saturated solutions of volatile oils or other aromatic or volatile substances in water. Their odours and tastes are similar to those of volatile oils or volatile substances from which they are prepared. The volatile substances from which the aromatic waters are to be prepared should be of highest quality.

Aromatic waters are mainly used for their flavouring properties as vehicles for the internal administration of medicaments or they are used as menstruum for the extraction of drugs due to their flavouring, sweetening and preservative properties. Some of the aromatic waters have a mild therapeutic action due to their carminative properties.

There are two types of aromatic waters which are described below :

(a) Simple aromatic waters

Simple aromatic waters contain water as a vehicle but do not contain alcohol. They are mainly used as vehicles e.g. chloroform water.

(b) Concentrated aromatic waters

Concentrated aromatic waters contain alcohol as a solvent for the volatile ingredients e.g. camphor water, concentrated peppermint water, concentrated caraway water, concentrated cinnamon water etc.

PREPARATION OF AROMATIC WATERS

Aromatic waters are prepared by any of the following methods :

(a) By dilution method
(b) By solution method
(c) By distillation method

(a) By dilution method

By this method the aromatic waters are prepared by diluting the concentrated water with 39 times its volume of water. Aromatic waters prepared in this manner contain a small proportion, usually about 1.5% v/v, of alcohol (90 per cent).

(b) By solution method

To prepare the aromatic water by solution method, shake the corresponding volatile oil with 500 times its volume of purified water. Repeat the shaking several times during a period of about 30 minutes. Allow the mixture to stand for 12 hours or overnight and filter, if necessary.

Alternatively the volatile oil may be triturated with a sufficient quantity of purified talc, kieselguhr or pulped filter paper, then gradually add 500 times its volume of purified water with continuous stirring, and filter.

(c) By distillation method

In this method distil the drug or volatile oil with sufficient quantity of purified water until the specified volume of distillate has been collected. Shake the distillate thoroughly, allow to stand for 12 hours, filter to remove any excess of oil.

Examples of aromatic waters include chloroform water, camphor water, concentrated peppermint water, anise water, dill water, rose water, cinnamon water etc.

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Exercise No. 1

Object

Prepare and supply 50 ml Chloroform Water I.P. 1966.

I.P. formula

Chloroform	2.5 ml
Purified water, sufficient to produce	1000 ml

Procedure

Add chloroform to purified water. Shake frequently until chloroform dissolves in the purified water.

Storage

Store in a well-closed container.

Category

Pharmaceutical aid.

Dose

15 to 30 ml.

Uses

Chloroform water is used as a pharmaceutical aid. Since it has flavouring, sweetening and preservative properties so it is used as vehicle in certain preparations meant for internal use and as menstruum for extraction of drugs.

Explanation

In this preparation chloroform is required to be shaken vigorously to sub-divide the chloroform in small globules to increase the surface area of chloroform by which the rate of dissolution will increase because the solubility of a solute in a solvent is directly proportional to the surface area.

A distributing agent is not required because the product is only half-saturated with chloroform, and the latter dissolves upon shaking vigorously for a few minutes.

Since chloroform is volatile in nature therefore chloroform water is required to be stored in a well-closed container to prevent the volatilisation of chloroform.

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Exercise No. 2

Object

Prepare and supply 50 ml Camphor Water I.P. 1966.

I.P. formula

Camphor	1 gm
Alcohol (90 per cent)	2 ml
Purified water to	1000 ml

Procedure

Dissolve the camphor in alcohol (90 per cent). Add the solution in successive portions to the purified water. Shake well after each addition. Afterwards shake occasionally until all the camphor is dissolved.

Storage

Store in a well-closed container.

Category

Pharmaceutical aid.

Dose

15 to 30 ml.

Uses

Camphor water is used as a vehicle for liquid preparation due to its flavouring properties. It is also used as a carminative.

Explanation

The solubility of camphor is only 1 : 700 in water but it is freely soluble in alcohol i.e. 1 part of alcohol. In camphor water, the strength of camphor is 1 : 1000 that is near to saturation. Since camphor is very soluble in alcohol, so water is prepared by dissolving the camphor in alcohol and then this solution is added in small quantities to water with vigorous shaking after each addition. The addition of alcoholic solution to water yields a finely divided precipitates of camphor which redissolves easily on shaking. The alcohol acts as a distributive agent.

Water should not be added to the alcoholic solution of camphor because in that case whole of the camphor will be precipitated out which will not redissolve easily on shaking.

Camphor is volatile in nature so camphor water should be stored in a well-closed container to prevent the volatilisation of camphor.

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Exercise No. 3

Object

Prepare and supply 50 ml Dill Water Concentrated I.P. 1966.

I.P. formula

Dill oil	20 ml
Alcohol (90 per cent)	600 ml
Purified water, sufficient to produce	1000 ml

Procedure

Dissolve the dill oil in the alcohol (90 per cent). Add sufficient purified water in successive small quantities, with vigorous shaking after each addition, to produce 1000 ml. Add 50 gm purified talc, shake and set aside for a few hours, shake occasionally and filter.

Storage

Store in a well-closed container.

Category

Carminative, flavouring agent.

Dose

0.3 to 1.0 ml.

Uses

Dill water, concentrated, is used as carminative and flavouring agent. Due to this reason it is commonly used in gripe waters.

Explanation

Concentrated aromatic waters contain alcohol as solvent. The oil is not soluble in water but it is freely soluble in alcohol (90 per cent) i.e. in equal volumes of alcohol 90 per cent. So firstly the oil is dissolved in alcohol 90 per cent and then purified water is added. Upon addition of water, the non-aromatic terpenes present in the oil are precipitated. Therefore vigorous shaking during each addition of water is necessary to redissolve any of the aromatic portion of oil that is temporarily precipitated.

Purified talc or French chalk is used as an absorbent. The preparation is allowed to stand for a few hours to allow the finely divided globules of oil to coalesce and occasional shaking is done to facilitate the absorption of undissolved oil by the purified talc.

Many of the volatile oils possess aromatic odour and taste due to the presence of aromatic substances in it which constitute only a very small part of the oil whereas the remainder is non-aromatic. The aromatic part is much more soluble in alcohol than the non-aromatic part containing insoluble terpenes. When alcoholic solution of a volatile oil is added to water the non-aromatic portion gets precipitated which is removed with purified talc by filtration.

This preparation contains volatile oil so to prevent the volatilization of the volatile oil it should be stored in a well-closed container.

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Exercise No. 4

Object

Prepare and supply 50 ml Peppermint Water Concentrated B.P. 1968.

B.P. formula

Peppermint oil	20 ml
Alcohol (90 per cent)	600 ml
Purified water, sufficient to produce	1000 ml

Procedure

Dissolve the peppermint oil in the alcohol (90 per cent). Add sufficient purified water in successive small quantities with vigorous shaking after each addition to produce 1000 ml. Add 50 gm purified talc, shake and set aside for a few hours, shake occasionally and filter.

Storage

Store in a well-closed container.

Category

Carminative and flavouring agent.

Dose

0.25 to 1 ml.

Explanation

Explanation is same as discussed in Exercise No. 3.

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