

AROMATIC WATERS (AQUA AROMATICA)

- Aromatic waters are more or less saturated clear or almost clear aqueous or weak alcoholic solutions of volatile oils or other odoriferous volatile substances.



Description:

1. An odour and taste similar to the substances from which they are prepared.
2. They should always be colorless , clear and free from fibers, particles and sediment.
3. They should not be used after being stored for more than a few weeks.
4. They should be free from foreign odor.

Uses of Aromatic Waters:

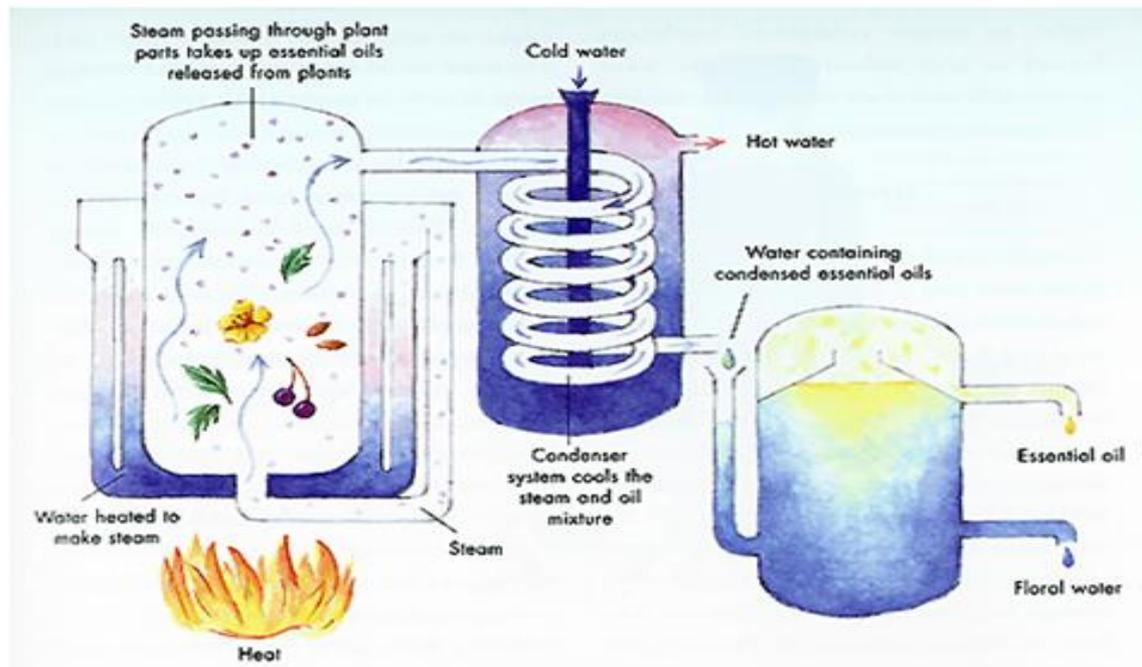
1. They provide pleasantly flavoured mediums for the administration of water-soluble medicinal.
2. They also mask the undesirable tastes in suspensions and emulsions.
3. Several aromatic waters are not used as vehicles for oral medication e.g. **Rose water**, **Hammemlis water** and **Camphor water**. Rose water is a **perfume**, Hammdmlis water is used as **astringent** in after shave lotions & other cosmetic products, camphor water is frequently prescribed in eye drops and eye washes for its slight **refreshing, . stimulating effect**.

Methods of preparation: E.P.

- **Distillation Method .**
- **Solution Method .**
- **Alternative Method .**

I. Distillation:

- Distil the odoriferous drug, in a suitable still, with a sufficient quantity of potable water or dilute alcohol until the specified volume of aromatic water has been collected. Set aside for 12 hours, separate the undissolved portion of the distillate if any, and filter if necessary.



II. Solution Method:

- Triturate 1.5 parts or the specified amounts of the odoriferous substance with 15 parts of **the talc or kieselguhr**, then gradually add 1000 parts of recently bailed and cooled distilled water, in successive small portions, and agitate the mixture frequently for 15 minutes. Set aside for 12 hours, filter and pass sufficient of the water through the filter to produce 1000 parts of almost clear filtrate.

Purified talc used in this process serves two purposes:

1. That of dispersing the volatile substances so as to make it more completely soluble in water.
2. Aids the filtration from excess of volatile oil as ordinary filter paper will not hold back finely dispersed particles, especially oils. The talc is a good adsorbent and the undissolved volatile material is adsorbed and prevented from passing through the filter.

III. Alternative Method:

- Dissolve 1.5 parts .or the specified amount of the odoriferous substance in 15 parts of **alcohol**, add to the solution sufficient recently boiled and cooled distilled water in successive small portions, to produce 1000 parts, shaking vigorously after each addition. Add if necessary 15 parts of talc and shake vigorously. Set aside for a few hours, with occasional shaking then filter.

Stability of Aromatic Waters:

- Excessive exposure to light and to changes in temperature cause aromatic waters to lose some of their desirable characteristics. Since the solutes are volatile materials loss of aroma occurs on prolonged exposure to the hot atmosphere. Since aromatic waters are saturated solutions, lowering the temperature causes separation of the aromatic component, thus producing cloudiness.

➤ The aromatic substances may be **salted out** when the water is used as a vehicle for drugs which are **electrolytes**. The insoluble materials may collect on the top of the liquid, imparting a burning taste to the first dose.

➤ Also, instability in aromatic waters may occur because of the chemical nature of the solutes. Many of the aroma bearing solutes is **oxidisable compounds**. In general, aromatic waters are not permanently stable preparations.

Incompatibilities of Aromatic Waters:

- In the presence of **very soluble salts will salt out** the soluble portion of the volatile principle in aromatic water. This difficulty can be overcome by **replacing part of aromatic water with purified water**.

Preservation of Aromatic Waters:

- Aromatic waters should be **freshly prepared** and should not be made in larger quantities than can be used within a reasonable time as they deteriorated when kept too long, usually through the development of **micro-organisms"** all traces of their agreeable odour disappearing.

- To avoid as far as possible the presence of micro-organisms the water used for preparing aromatic water should be **recently boiled, distilled water, as that ordinary distilled water is usually contaminated by the presence' of such micro-organisms.** No preservative should be added to aromatic waters.
- If they become cloudy or otherwise deteriorate, they should be discarded. Alcohol should not be added as preservative:. Moreover, aromatic water should be protected from **strong light; and freezing, which hasten decomposition.**

Method of preparation

- 1) Dissolve the camphor in the alcohol and add this alcoholic solution to the purified water in successive portions, shaking vigorously after each addition until all the camphor is dissolved.
- 2) Adjust to the required volume with purified water.

NOTES:

Solubility of camphor in water is **1 in 800**; the above aromatic water is a nearly saturated solution.

- When the alcoholic Solution of camphor is added to water the camphor is precipitated in a form of very fine particles, this will **enhance its solubility in water**. The alcohol may be considered as a **distributing agent**.

Uses:

- As carminative internally and antiseptic and anaesthetic in eye lotion.

2. Peppermint water (*Aqua menthae*)

E.P:

- Peppermint water is a clear saturated aqueous solution of peppermint oil in distilled water. .

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Peppermint oil	1.5 ml
Talc	15 gm
Purified water	1000 ml
Mitte	100ml

Uses:

- Carminative and flavoring vehicle, mildly sedative to the stomach.

Method of preparation:

- 1- Triturate the peppermint oil with powder talc in a mortar till well mixed.
- 2- Add gradually purified water in portions and triturate.
- 3- Transfer the content of the mortar to a suitable bottle and rinse the mortar with the remaining water adding the rinsing to the contents of the bottle.
- 4- Shake the bottle for 10 minutes.
- 5- Filter through a dry small filter paper.
- 6- Return the first portion of the filtrate and re-filter it again.
- 7- If the filtrate remains turbid, re-filter it till become clear.

3-chloroform Water:

- Chloroform water is a saturated aqueous solution of chloroform. Concentration of chloroform in chloroform water is **0.5 % v/v**. Solubility of chloroform in water is **one part in 210 parts of water**.

Method of preparation

- It is not prepared according to the general methods for preparing aromatic waters. There is **no clarification problem involved and a slight excess of chloroform must remain in the bottle.**
- A saturated solution is prepared and maintained by adding excess of chloroform given quantity of purified water, i.e. 0.5 ml chloroform to 100 ml purified water, shaking vigorously taking care that a slight excess of chloroform is always present.

Since chloroform is **heavier** than water, the excess will remain on the bottom of the container.

The high volatility of chloroform creates equilibrium of loss and restoration of strength by evaporation.
When dispensing, the bottle should not be shaken and only the supernatant liquid used.

Storage

In light-resistant bottles, i.e. amber coloured since light causes chloroform to be oxidized to the poisonous gas " phosgene " as follows



Uses

Expectorant, stomachic, carminative, antiseptic and preservative.

Dose

15 ml

Tools:

- Mortar and pestle
- Spatula
- Cylinder 100 ml
- Dropper
- Bottle
- Label
- فوطه
- Flask
- Funnel
- Filter paper
- Beaker