

Aqueous solutions containing aromatic principles

Waters, Syrups, and Juices

- Aromatic waters: aqueous solutions, usually saturated, of volatile substances characterized by very low water-solubilities.
- The official aromatic waters are
 1. Cinnamon water, NF: flavored vehicle
 2. Orange flower water, NF: flavored vehicle
 3. Stronger rose water, NF: perfume
 4. Peppermint water, USP: flavored vehicle, carminative (15 ml dose)
 5. Camphor water, NF: flavored vehicle
 6. Chloroform water, NF: flavored vehicle

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Two important classes of aqueous pharmaceutical preparations which also generally contain aromatic principles are syrups and juices

- Syrups, may be defined as sweet, viscous, aqueous liquids designed specifically for medicine to be administered orally.
- Juice: is a liquid obtained by expression from the fresh part of a plant.
- The USP contains two juices made from fresh fruits-Cherry and Raspberry Juices.
- In past juices frequently served as the base for syrups.

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- Aromatic waters are examples of the simplest of formulated dosage forms, consisting only of the solvent water and the volatile solute.
- Juices, which may be extremely complex in composition, have characteristics which are not readily controlled by the pharmacist, since they are derived directly from natural sources.
- On the other hand syrups are formulated preparations that often contain ingredients, so-called **pharmaceutical necessities** or **adjuvants**, which are added to improve the “elegance” of the product.

- Any pharmaceutical formulation is said to be “elegant” if it meets three standards of quality
 1. It should be stable
 2. It should be palatable and
 3. It should be therapeutically effective
- Pharmaceutical preparations are stable if they show no loss in therapeutic activity and no undesirable chemical and physical changes over extended periods of time.
- The shelf life may be defined as the time required for the drug level in a product stored at room temperature (normally 25°C) to degrade to 90 percent of its labeled potency.

Factors which may effect the stability of product

- Environmental factors: microbial contamination, light, atmospheric oxygen, humidity and temperature.
- In aqueous solutions, especially waters and syrups, growth of microorganisms, particularly molds, may be a problem.
- Chemical changes which may be observed include
 1. Hydrolytic degradation and
 2. Autoxidation
- Physical changes which may be observed include precipitation and alteration in color, odor and viscosity.

- A pharmaceutical is palatable if it has pleasant taste.
- The selection of flavors for pharmaceutical preparation is dictated by a number of factors-among them,
 1. The age group for which the medicine is intended
 2. The color of the preparation
 3. The taste to be masked by the preparation and
 4. The type of dosage form.
- Syrups and aromatic waters are designed to provide a base which will produce palatable medicinal products.

- A preparation may be perfectly stable and palatable and yet be therapeutically worthless.
- The therapeutic efficacy of dosage forms is determined by their ability to effect quick release of medicinal agents.

