

Semi Solid Dosage Form

Hard-shelled capsules, which contain dry, powdered ingredients or miniature pellets made by e.g. processes of extrusion or spheronization. These are made in two-halves: a smaller-diameter "body" that is filled and then sealed using a larger-diameter "cap". c21049b62c Homogeneous means that the components of the mixture form a single phase. Heterogeneous means that the components of the mixture are of different phase. The properties of the mixture (such as concentration, temperature, and density) can be uniformly distributed through the volume but only in absence of diffusion phenomena or after their completion. Usually, the substance present in the greatest amount is considered the solvent. Solvents can be gases, liquids, or solids. One or more components present in the solution other than the solvent are called solutes... c21049b62c One handprint is 0.8% (i.e. approximately 1%) of the total body surface area, and one FTU covers approximately two handprints. As two FTUs are approximately equivalent to 1g of topical application, the "Rule of Hand" states that "4 hand areas = 2 FTU = 1 g". c21049b62c

Capsule (pharmacy) The two main types of capsules are:. the manufacture of pharmaceuticals, encapsulation refers to a range of dosage forms—techniques used to enclose medicines—in a relatively stable shell known In the manufacture of pharmaceuticals, encapsulation refers to a range of dosage forms—techniques used to enclose medicines—in a relatively stable shell known as a capsule, allowing them to, for example, be taken orally or be used as suppositories c21049b62c

Finger tip unit The "distal skin-crease" is the skin crease over the joint nearest the end of the finger. e. One FTU is enough to treat an area of skin twice the size of the flat of an adult's hand with the fingers together, i. a "handprint". unit (FTU) is defined as the amount of ointment, cream or other semi-solid dosage form expressed from a tube with a

5 mm diameter nozzle, applied from In medicine, a finger tip unit (FTU) is defined as the amount of ointment, cream or other semi-solid dosage form expressed from a tube with a 5 mm diameter nozzle, applied from the distal skin-crease to the tip of the index finger of an adult. Two FTUs are approximately equivalent to 1 g of topical steroid
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Orally disintegrating tablet orally disintegrating tablet or orally dissolving tablet (ODT) is a drug dosage form available for a limited range of over-the-counter (OTC) and prescription An orally disintegrating tablet or orally dissolving tablet (ODT) is a drug dosage form available for a limited range of over-the-counter (OTC) and prescription medications. ODTs differ from traditional tablets in that they are designed to be dissolved on the tongue rather than swallowed whole. The ODT serves as an alternative dosage form for patients who experience dysphagia (difficulty in swallowing) or for where compliance is a known issue and therefore an easier dosage form to take ensures that medication is taken. Common among all age groups, dysphagia is observed in about 35% of the general population, as well as up to 60% of the elderly institutionalized population and 18-22% of all patients in long-term care facilities
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== Structure of gels == c21049b62c Since their inception, capsules have been viewed by consumers as the most efficient... c21049b62c == Justification == c21049b62c ODTs may have a faster onset of effect than tablets or capsules, and have the convenience of a tablet that can be taken without water. During the last decade, ODTs have become available in a variety of therapeutic markets, both OTC and by prescription. c21049b62c Sometimes these and other terms are treated as synonyms, but the United States Food and Drug Administration has in fact defined most of these as different concepts. Sometimes the term "depot tablet... c21049b62c Creams are semi-solid emulsions of oil and water. They are divided into two types: oil-in-water (O/W) creams which are composed of small droplets of oil dispersed in a continuous water phase, and water-in-oil (W/O) creams which are composed of small droplets of water dispersed in a continuous oily phase. Oil-in-water creams are more comfortable and cosmetically acceptable as they are less greasy and more easily washed off using water. Water-in-oil creams are more difficult to handle but

many drugs which are incorporated into creams are hydrophobic and will be released more readily from a water-in-oil cream than an oil-in-water cream. Water-in-oil creams are also more moisturising as... c21049b62c == Types == c21049b62c

Cream (pharmacy) Creams for application to mucous membranes such as those of the rectum or vagina are also used. Creams are semi-solid emulsions of oil and water. Creams may be considered pharmaceutical products, since even cosmetic creams are manufactured using techniques developed by pharmacy and unmedicated creams are highly used in a variety of skin conditions (dermatoses). how much topical cream is required to cover different areas. The use of the finger tip unit concept may be helpful in guiding how much topical cream is required to cover different areas. They are divided into two types: oil-in-water A cream is a preparation usually for application to the skin c21049b62c

Soft-shelled capsules, primarily used for oils and for active ingredients that are dissolved or suspended in oil. c21049b62c

3D printed medication It allows for precise control over the composition and dosage of drugs, enabling the production of personalized medicine tailored to an individual's specific needs, such as age, weight, and medical condition. follows a predefined path, depositing semi-solid material to create each layer, and gradually stacking them to form the final product. This approach can be used to improve the effectiveness of drug therapies and to reduce side effects. SSE is conceptually A 3D printed medication (also called 3D printed medicine, 3D printed pharmaceutical, or 3D printed drug) is a customized medication created using 3D printing techniques, such as 3D printed tablets c21049b62c

Topical drug delivery is a route of administering drugs via the skin to provide topical therapeutic effects. As skin is one of the largest and most superficial organs in the human body, pharmacists utilise it to deliver various drugs. This system usually provides a local effect on certain positions of the body. In ancient times, people used herbs to put on wounds for relieving the inflammatory effect or as pain relievers. The use of topical drug delivery system is much

broader now, from smoking cessation to beauty purposes. Nowadays,...

History

Both of these classes of capsules are made from aqueous solutions of gelling agents, such as animal protein (mainly gelatin) or plant polysaccharides or their derivatives (such as carrageenans and modified forms of starch and cellulose). Other ingredients can be added to the gelling agent solution including plasticizers such as glycerin or sorbitol to decrease the capsule's hardness, coloring agents, preservatives, disintegrants, lubricants and surface treatment.

Mucoadhesive...

Applications

Sustained-release dosage forms are dosage forms designed to release (liberate) a drug at a predetermined rate in order to maintain a constant drug concentration for a specific period of time with minimum side effects. This can be achieved through a variety of formulations, including liposomes and drug-polymer conjugates (an example being hydrogels). Sustained release's definition is more akin to a "controlled release" rather than "sustained".

Topical medication from smoking cessation to beauty purposes. Most often, topical medications are applied to the skin or mucous membranes, via creams, foams, gels, lotions, or ointments. The word topical derives from Greek τοπικός topikos, "of a place". Many topical medications are epicutaneous, meaning that they are applied directly to the skin. Nowadays, there are numerous dosage forms that can be used topically, including cream, ointment, lotion, patches

A topical medication is a medication that is applied to a particular place on or in the body. Topical medications may also be inhalational, such as asthma medications, or applied to the surface of tissues other than the skin, such as eye drops applied to the conjunctiva, or ear drops placed in the ear, or medications applied to the surface of a tooth

In the original study in the UK, one FTU weighed 0.49 g in men and 0.43 g in women. The area covered by one FTU was 312 cm² in men and 257 cm² in women. Very similar results were found in a Mexico study. The weight of an FTU has been recalculated in Japan, relating to the use of 5 g tubes of ointment with a much smaller nozzle diameter. The weight of ointment is less if the nozzle diameter is smaller...

Mucoadhesion They are generally hydrophilic as they contain many hydrogen macromolecules due to the large amount of water (approximately 95%) within its composition. Bioadhesion is the mechanism by which two biological materials are held together by interfacial forces. Creams are semi-solid dosage forms that Mucoadhesion describes the attractive forces between a biological material and mucus or mucous membrane. Understanding the hydrophilic bonding and adhesion mechanisms of mucus to biological material is of utmost importance in order to produce the most efficient applications. Mucous membranes adhere to epithelial surfaces such as the gastrointestinal tract (GI-tract), the vagina, the lung, the eye, etc. The final inner layer consists of the mucoadhesive, allowing the patch to adhere to the specified mucosa. However, mucin also contains glycoproteins that enable the formation of a gel-like substance. For example, in drug delivery systems, the mucus layer must be penetrated in order to effectively transport micro- or nanosized drug particles into the body. The mucoadhesive properties of polymers can be evaluated via rheological synergism studies with freshly isolated mucus, tensile studies and mucosal residence time studies. dosage. Results obtained with these in vitro methods show a high correlation with results obtained in humans c21049b62c

Modified-release dosage Sustained-release dosage forms are dosage forms designed to release Modified-release dosage is a mechanism that (in contrast to immediate-release dosage) delivers a drug with a delay after its administration (delayed-release dosage) or for a prolonged period of time (extended-release [ER, XR, XL] dosage) or to a specific target in the body (targeted-release dosage). (extended-release [ER, XR, XL] dosage) or to a specific target in the body (targeted-release dosage) c21049b62c

Tablets designed to dissolve on the buccal (cheek) mucous membrane were a precursor to the ODT. This dosage form was intended for drugs that yield low bioavailability through the digestive tract... c21049b62c

Topical gels They are formed from a mixture of gelator, solvent, active drug, and other excipients, and can be classified into organogels and hydrogels. They are formed from Topical gels are a topical drug delivery dosage form

commonly used in cosmetics and treatments for skin diseases because of their advantages over cream and ointment. delivery dosage form commonly used in cosmetics and treatments for skin diseases because of their advantages over cream and ointment. Drug formulation and preparation methods depend on the properties of the gelators, solvents, drug and excipients used c21049b62c

Solution (chemistry) When, as is often but not necessarily the case, the sum of the mole fractions of solutes is small compared with unity, the solution is called a dilute solution. Liquid in solid: Mercury in gold, forming an amalgam Water in solid salt or sugar, forming moist solids Hexane in paraffin wax Polymers In chemistry, a solution is defined by IUPAC as "A liquid or solid phase containing more than one substance, when for convenience one (or more) substance, which is called the solvent, is treated differently from the other substances, which are called solutes. " One parameter of a solution is the concentration, which is a measure of the amount of solute in a given amount of solution or solvent. The term "aqueous solution" is used when one of the solvents is water. hydrogen storage c21049b62c

Extended-release dosage consists of either sustained-release (SR) or controlled-release (CR) dosage. SR maintains drug release over a sustained period but not at a constant rate. CR maintains drug release over a sustained period at a nearly constant rate. c21049b62c

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