**A New Approach in Drug Delivery: LUDIFLASH**

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**ABSTRACT**

Consumers want a pleasant-tasting and fast-acting tablet that can be taken anywhere, anytime without the need of water. They want such a tablet that completely disintegrates within moments, with no bitterness or chalky aftertaste. FDTs fast disintegrating tablets are the dosage form which will disintegrate in mouth within seconds without need of water. This type of property in dosage form can be attained by addition of different varieties of excipients. But the number of fillers/binders/disintegrant which can be used for FDT formulations is limited because these bulk excipients have to fulfill special requirements, such as being soluble in water, pleasant taste, mouth feel, sweetness and rapid dispersibility. With Ludiflash, that is exactly what they get. This is one of the novel excipient for fast dissolving drug delivery which disintegrant rapidly within seconds with soft, creamy consistency. It is specially designed for direct compression on standard high speed tablet machine for hard tablet with very low friability. Ludiflash have good flow ability, less water absorption and no segregation of the active ingredients. As a result, it can be easily processed. Ludiflash decreases costs because it acts as All-in-one system (filler, binder and disintegrant), Lower storage costs (one material, not three), Lower analysis costs, Faster product development, faster process validation. It act as patient friendly because it disintegrates in the mouth within seconds with creamy and smooth mouthfeel, Neutral to mildly sweet, pleasant taste, and suitable for Pharmaceutical medicine and nutritional supplements.

Key Words: Ludiflash, Fast dissolving tablet, Novel excipient

**INTRODUCTION**

From decades, many advances have occurred in manufacturing of oral dosage form, and orally disintegrating tablets (ODTs) technologies is one part of it which entered in market in 1980, and the their growing demand have lead expansion of different product pipeline rapidly. New ODT technologies address many pharmaceutical and patient needs, ranging fromenhanced life-cycle management to convenient dosing for paediatric, geriatric, and psychiatric patients with dysphagia It also lead to development of various excipients, having added functionality excipients (AFEs). Such excipients have proved to be very important in deciding safety, effectivity as well as bioavailability and bioequivalence of active drug.

.Ludiflash has all in one solution, it act like diluent, binder (by increasing the cohesion with drug) as well as disintegrating agents. It not only provide hardness, but also imparts creamy taste and decreases storage and analytical costs and accelerate product development (mechanically stable tablets in push-through blisters), process validation and stability in production. Ludiflash is a direct compressible excipient for fast disintegrating solid oral dosage forms. The formulation of co-processed ingredients consists of three compendia ingredients: A sugar-alcohol, crospovidone and a polymer dispersion based on polyvinyl acetate. It is tailored to disintegrate readily on the tongue with a pleasant-creamy mouthfeel without a chalky or sandy sensation.

**COMMON EXCIPIENTS USED IN LUDIFLASH**

1. **90-95% Mannitol:** Fast-dissolving filler with a mildly sweet taste.
2. **5% Kollidon® CL-SF (Crospovidone):** A superior tablet disintegrant: Highly effective, disintegrates the tablet in the presence of very little liquid which offers a pleasantly smooth and creamy mouthfeel.
3. **5% Kollicoat® SR (Polyvinyl Acetate):** Hydrophobic binder to enhance disintegration.

**EXCEPTIONAL PROPERTIES OF LUDIFLASH**

* Carefully controlled particle size distribution, particle structure and high bulk density combine to provide good flowability.
* A standard tableting process yields excellent content uniformity, even at high tableting speeds.
* Compact, but highly porous and fast-disintegrating tablets offer exceptional hardness and low friability.
* Tablets can be manufactured, handled and packed using standard equipment.
* Low hygroscopicity when stored as a pure powder or in finished formulations, ensures the stability of the active ingredients and of the tablet itself.



Figure 1: Characteristics of ludiflash

**ADVANTAGES**

**Ludiflash saves time and money**

* Ludiflash is suitable for direct compression and roller compaction.
* It can also be used in wet-granulation processes, where required by the active ingredient, or for other reasons.
* The blends can be processed on standard tableting machines, or used in the form of granules or powder.
* Ludiflash offers good flowability, minimal water absorption, exceptionally high cohesion, and no segregation of the active ingredients. As a result, it can be easily processed.
* With Ludiflash you can manufacture tablets in high quality at low cost and with short time-to-production
* Tableting needs to be simple and should be possible with any conventional equipment and with any preferred packaging type.
* Ludiflash offers you license-free manufacturing for complete commercial independence.
* It also offers you exceptional flexibility as an excipient.
* Ludiflash is extremely versatile, and is compatible with all conventional production equipment.
* It also gives you stability and hardness when and where you need it – for example, for tablets to be packaged in PE-containers or push-through blisters.



Figure 2: Advantages and disadvantagesof ludiflash

**Promising active ingredients to be incorporate in Ludiflash**

Aminophyllin, Benoxinate (Oxybuprocaine) HCl, Benzonatate, Bethanechol Chloride, Bupivacaine Base and HCl, Caffeine, Carticaine (Articaine) HCl, Cathin, Dexpanthenol, Diprophyllin, Dobutamine, Dopamine, Ephedrine, Ibuprofen, Isotretinoin, Methylphenidate HCl, Oxybutynin Base and HCl, Oxymetazoline, Pseudoephedrine, PVP-Iodine, Ribavirin, Tetracaine Base and HCl, Theophylline, Tretinoin, Tricaine Methanesulfonate, Selegiline, Vitamins, Xylometazoline.

**CONCLUSION**

Ludiflash is a unique innovative co-processed blend of mannitol (95%), crospovidone (5%) and polyvinyl acetate (5%) designed to be better than anything in the market has seen to till date that provides exceptional properties throughout the entire tablet life cycle: in terms of formulation, manufacturing, packaging, ingestion and of course in action. Thus it provides a very cost efficient production pathway along with patient friendly properties.

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