mceODT excipient

Multicomponent excipient for production of Orally Disintegrating tablets (ODTs)

User-friendly **form ODT** release active ingredients **in mouth**

Bypassing liver

Optimized powder flow, enabling **direct compression tablet manufacturing**

Possible tablet size **from 50 mg**

Introduction

Orally Disintegrating Tablets (ODTs) are becoming more popular with doctors and consumers due to the advantages they offer over traditional tablets and capsules. ODTs dissolve quickly on the tongue with no water required. They can be taken virtually anywhere and offer discrete administration, broad application and are suitable for numerous combinations.
ODTs help improve compliance for younger and older consumers and also those consumers who have general issues with dysphagia and are unable to swallow efficiently.

Application

mceODT excipient is a high functionally excipient for development and production of orally disintegrating tablets formulation of food supplement and complementary feed. It provides the functional performance needed for todays orally disintegrating tablet formulation challenges and offers a creamy, smooth mouth feel.
mceODT excipient designed for direct compression tablet manufacturing.
Final ODT formulation should be developed and manufactured.
mceODT excipient can be blended with vitamins, minerals, botanical extracts, a flavour, suitable lubricant, additional sweetener if desired, and then directly compressed into tablets.

Fields of application

- Food supplements (ODTs, chewable tablets)
- Pet supplements (chewable tablets)

Composition

Tapioca starch, erythritol, bamboo cellulose, acetylated starch, silica, glyceryl dibehenate, stevia rebaudioside A

Quality

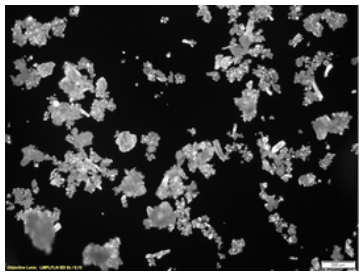
Food grade

Benefits

- Simple to use
- Smooth and creamy mouthfeel
- Directly compressible for simple manufacture
- Requires additional lubricants
- Enhance tablet robustness
- Provide rapid tablet disintegration
- Simply add the active, dry blend, and compress

Physical Properties

- Free-flowing, co-processed excipient
- White to nearly white in colour
- Odourless powder
- Bulk density: 0.50-0.60 g/ml
- Tapped density: 0.60-0.80 g/ml
- Mean particle size: <50 µm: NLT 80%
- Hausner factor: 1.20 - 1.33



Picture 1. Particles of mceODT excipient in optic microscope

TECHNICAL INFORMATION

Commercialised product

Commercialised ODTs were developed using mceODT excipient and different active ingredients. The active ingredients were blended directly with the excipient along with flavour and lubricant.
The formulations were directly compressed in tablets. Tablets were tested for disintegration time, hardness and the results are displayed (Table 1).

Active ingredient	Tablet weight, mg	Tablet diameter, mm	Tablet hardness, N	Disintegration time, sec.
Melissa officinalis extract, Magnolia officinalis extract, L-theanin, Vitamins B1, B2, B6	250	8	55	25
Melatonin, Griffonia simplicifilia extract, Magnolia officinalis extract, L-theanin, Vitamins B1, B2, B6, B12	150	6	40	27
Baical scullcap extract, Feverfwe extract, Camellia sinensis extract, Vitamins B1, B2	250	8	41	30
Vitamin D3	70	5	35	77

Table 1. Commercialised Tablet Physical Data

Manufacturing & development

We provide also development of customized nutritional formulations based on our client´s needs and requirements.

The first-pass effect

The first-pass effect, or the first pass of the liver, is common in classical tablets where the active substance passes through the digestive tract and subsequently the liver, being largely degraded or converted into ineffective substances - thereby reducing the effectiveness of the administered dose.
There is no first-pass in ODTs - the active substance is absorbed already in the oral cavity and the upper oesophagus, making it more effective even at low doses.

ODT excipient dynamics

To satisfy these requirements, an excipient must maximize the porous matrix in which the 2.0 ml of saliva will be fast-channeled to the disintegrant to facilitate break down.
Due to its ability of making an unique structural matrix to achieving high API bioavailability, mceODT excipient is the excipient of choice for ODT formulations.

Conclusion

mceODT excipient is multicomponent excipient for effective development and production of Orally Disintegrating Tablets (ODTs) by direct compression, intended for the nutritional supplement industry. Easy administration, high efficiency of administrated dose (even a lower dose compared swallowing tablets) and with rapid onset of the active ingredient's effect, disintegration time about 30 seconds in average.