

SUMMARY

In this work is studied mechanical strength and disintegration time of tablets from direct compressed fructose – Advantose[™] FS 95, prepared by coprocessing method of spray-drying of fructose and a small amount of starch and its mixture with microcrystalline cellulose Vivapur 102 in the ratio of 1:1 according to the compression force 10, 12,5 and 15 kN, addition of two lubricants (magnesium stearate, Pruv) in the same concentration 1% and addition of two model active substances (acetylsalicylic acid and ascorbic acid) in the concentration 50%. Used compression force for compression of mixtures with active substances was 12,5kN.

There was no statistically significant difference in values of mechanical strength of tablets from Advantose FS 95 in terms of type of used lubricant except for the compression force 10 kN. Tablets from the mixture of Advantose FS 95 and Vivapur 102 in the ratio of 1:1 had higher mechanical strength than the tablets only from Advantose FS 95. Nevertheless the mechanical strength was markedly lower by the addition of lubricants and more by the addition of magnesium stearate. Disintegration time was prolonged by the addition of lubricants in the case of tablets with Advantose FS 95 and its mixture with Vivapur 102. The longest disintegration time had the tablets from the mixture of the dry binders with Pruv. The strength of the tablets with acetylsalicylic acid was higher than with ascorbic acid, also the disintegration time was longer in the case of acetylsalicylic acid, both Advantose FS 95 alone and its mixture with Vivapur 102. Tablets of Advantose FS 95 had lower mechanical strength and longer disintegration time when compressed with a force of 10 kN in comparison to directly compressible maltose Advantose 100. Tablets of Advantose 100 had higher strength even in comparison to the mixture with Vivapur 102 in the ratio of 1:1. The difference was in interference of lubricants, because decline of the strength was caused in this case by sodium stearyl fumarate. And in case of Advantose FS 95 by magnesium stearate. Tablets made from the mixture of Vivapur 102 and Advantose FS 95 had longer disintegration time than the tablets from the mixture of Advantose 100, because the lubricants in the mixture of Advantose FS 95 and Vivapur 102 made disintegration time longer.