

Frictional effects, mechanical strength, and disintegration of coffee mix tablet, effervescent coffee mix tablet and with added lubricant

ABSTRACT

Three different tableted coffee mix formulations were produced: coffee mix tablet, effervescent coffee mix tablet, and effervescent coffee mix tablet added with lubricant (2 w/w% magnesium stearate). The frictional effects during the ejection of the formed tablets out from the die, the mechanical strength and the disintegration of the tablets were investigated. The coffee mix tablet displayed the highest mechanical strength, followed by the effervescent coffee mix tablet. The effervescent coffee mix tablet containing the lubricant displayed the lowest mechanical strength. The addition of the effervescent agents to the coffee mix tablet increased the frictional effects during the ejection stage. This was decreased with the addition of the lubricant. The addition of the effervescent agents to the coffee mix tablet decreased the disintegration time but the addition of the lubricant increased the effervescent coffee mix tablet disintegration time.

Keyword: Coffee tablet; Strength; Disintegration; Friction; Effervescent; Magnesium stearate