



Glidants on the Flow Property of Floating Tablet

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Abstract

The aim of this investigation was to study the flow properties of powder by angle of repose with and without glidant. A glidant is a substance that is added to a powder to improve its flowability. A glidant will only work at a certain range of concentrations. Above a certain concentration, the glidant will in fact function to inhibit flow ability. Examples of glidants include magnesium stearate, starch and talc. In order to allow the powder to flow through the tablet press without building up a static charge, glidant must be added and regulated in proper amount to ensure that the hydrophobicity of the powder does not causes an undesirably long dissolution rate. The properties of tablets, powder mixture and pharmaceutical drugs are significantly affected by the excipients. This study investigated the influence of different concentration of starch, magnesium stearate and talc on the flow properties of powder. From study it was observed that, the glidants posse's order of property was Talc > Starch > Magnesium stearate

Introduction

Powder may be free flowing or cohesive. The flow Property of powder is increased by adding glidant such as talc, magnesium stearate, and starch. Flow property is measured by angle of repose. It is the maximum angle between the free standing surface of powder and horizontal plane.

Objective

The objective of the glidant is to increase the flow property of powder. The main objective of the investigation is the comparative study of different glidant such as talc, magnesium stearate and starch using angle of repose.

Experimental Work

Powder mixture containing aspirin drug and lactose as diluents was prepared. In the powder mixture, various concentration (1, 1.5, 2, 2.5 %) of selected each glidants added into different formulation. As preformulation parameter flow properties of mixtures were studied with the help of angle of repose with and without different (talc, starch and magnesium stearate) glidants. Relationship between angle of repose and powder flow^{1,2}-

Table - 1

Angle of repose	Powder flow
< 25	Excellent
25-30	Good
30-40	Passable
>40	Very-poor

Result And Discussion

Angle of repose study was carried out to each formulation, indicating that most of formulations was found acceptable. The formulation F4 containing the 2% talc as a glidants has a good flow properties as compared to starch and magnesium stearate. Magnesium stearate (2.5) has a very poor flow property than talc and starch. In the present study glidants follows the following order,

Table 2 Talc > Starch > Magnesium stearate.

Formulation	Angle of repose	Powder flow
G (without glidants)	42.54	Very poor
F1- Talc (1%)	31.25	Passable
F2- Talc (1.5%)	30.48	Passable
F3- Talc (2%)	29.37	Good
F4- Talc (2.5)	32.54	Passable
F5- Starch (1%)	33.41	Passable
F6 -Starch (1.5%)	32.68	Passable
F7- Starch (2%)	34.25	Passable
F8- Starch (2.5%)	33.12	Passable
F9-Magnesium Stearate (1%)	37.59	Passable
F10- Magnesium Stearate (1.5%)	36.27	Passable
F11- Magnesium Stearate (2%)	36.79	Passable
F12- Magnesium Stearate (2.5%)	38.99	Passable



Conclusion

By studying the flow properties of powder using different glidants it was observed that talc (2%) as a glidant has a good flow properties because of the uniform particle size.

References-

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